CDP-C250Z/C350Z/CE305/CE405

SERVICE MANUAL

US Model
CDP-C250Z/C350Z/CE305/CE405
Canadian Model
AEP Model
CDP-CE305/CE405
UK Model
CDP-CE405
Australian Model
E Model
Chinese Model
CDP-CE305/CE405

Photo : CDP-CE405

Model Name Using Similar Mechanism	CDP-C265/C365
CD Mechanism Type	CDM27A2-5BD20
Base Unit Type	BU-5BD20
Optical Pick-up Type	KSS-213B/K-N

SPECIFICATIONS

Compact Disc Player

Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max 44.6 µW* * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up block with 7 mm aperture.
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 102 dB
Dynamic range	More the 98 dB
Harmonic distortion	Less than 0.0045%
Channel separation	More than 100 dB

Output

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2V (at 50 kilohms)	Over 10 kilohms

General

Power requirements

Where purchased	Power requirements
US, Canadian	120V AC, 60 Hz
AEP, UK, German, Italian, East European	220-230V AC, 50/60 Hz
Australian	240V AC, 50/60 Hz
E	110-120V, 220-240V adjustable, 50/60 Hz
Chinese	220-240V AC, 50 Hz

Power consumption	14W
Dimensions (approx.) (w/h/d)	430 × 120 × 385 mm (17 × 4 3/4 × 15 1/4 in.) incl. projecting parts
Mass (approx.)	5.6 kg (12 lbs 6 oz)

Supplied accessories

Audio cord (2 phono plugs–2 phono plugs) (1)
Remote commander (remote) (CDP-C350Z/CE405 only)
Sony SUM-3 (NS) batteries (CDP-C350Z/CE405 only)
AC plug adaptor (1) (E model only)

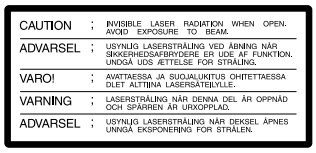
Design and specifications are subject to change without notice.

MICROFILM

COMPACT DISC PLAYER

SONY

The following caution label is located inside of the unit.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNAD OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This appliance is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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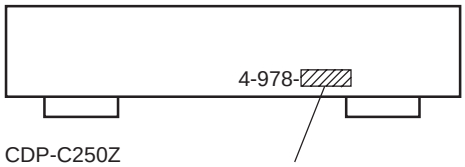
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION
— BACK PANEL —



CDP-C250Z	
US Model	: 490-7☐
CDP-C350Z	
US Model	: 490-8☐
CDP-CE305	
US Model	: 490-0☐
Canadian Model	: 490-1☐
AEP Model	: 767-2☐
German Model	: 490-3☐
Australian Model	: 490-4☐
E Model	: 490-5☐
Chinese Model	: 490-6☐
CDP-CE405	
US Model	: 767-0☐
Canadian Model	: 767-1☐
AEP, East Europian, Chinese Model	: 767-2☐
UK Model	: 767-4☐
German Model	: 767-3☐
E Model	: 767-6☐
Australian Model	: 767-5☐

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SAFETY CHECK-OUT
(US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

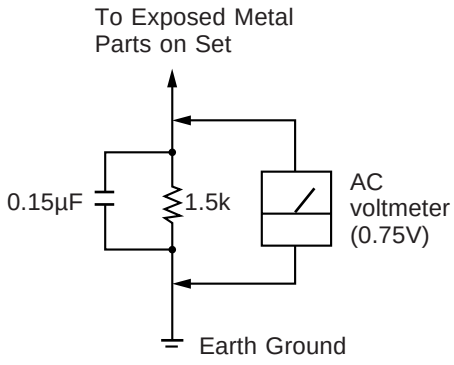
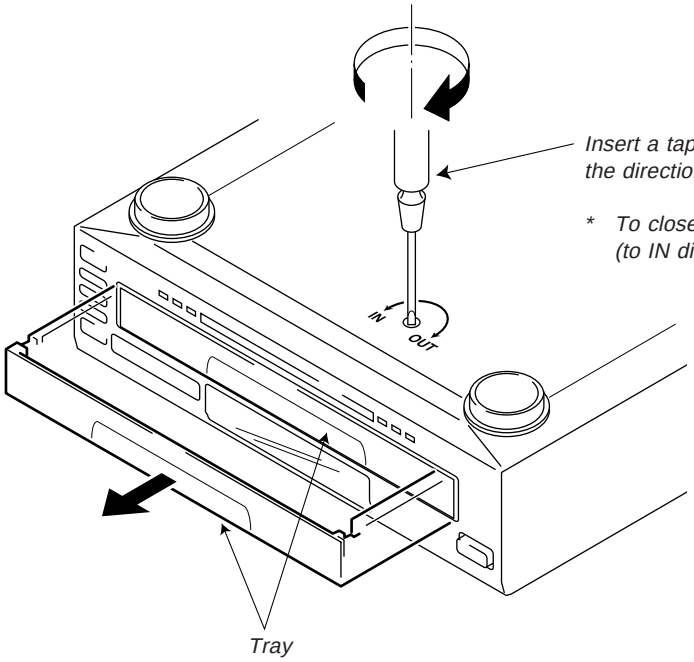


Fig. A. Using an AC voltmeter to check AC leakage.

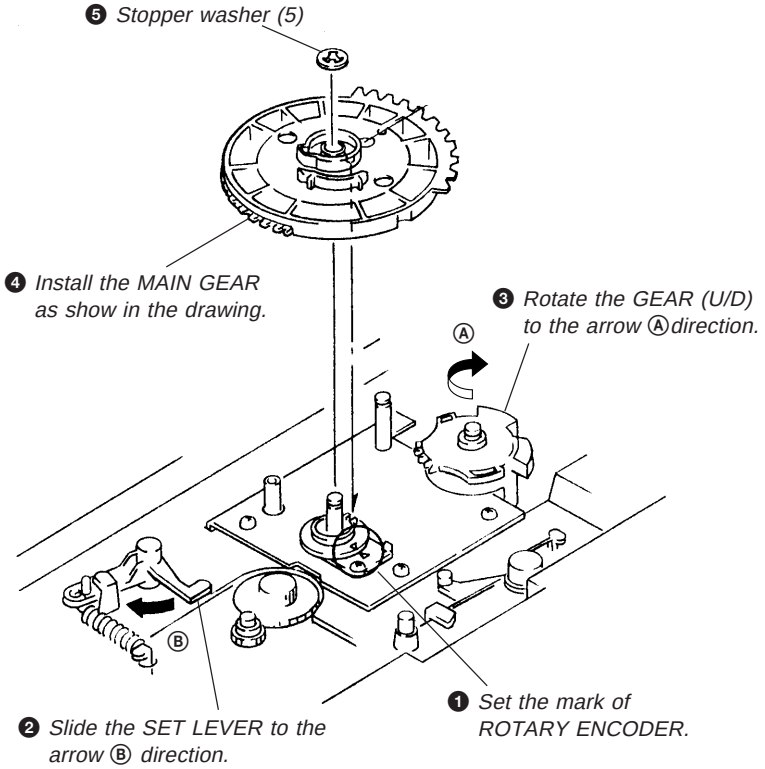
HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



Insert a tapering driver into the aperture of the unit bottom, and turn in the direction of arrow (to OUT direction).

* *To close the disc tray, turn the driver in the reverse direction (to IN direction).*

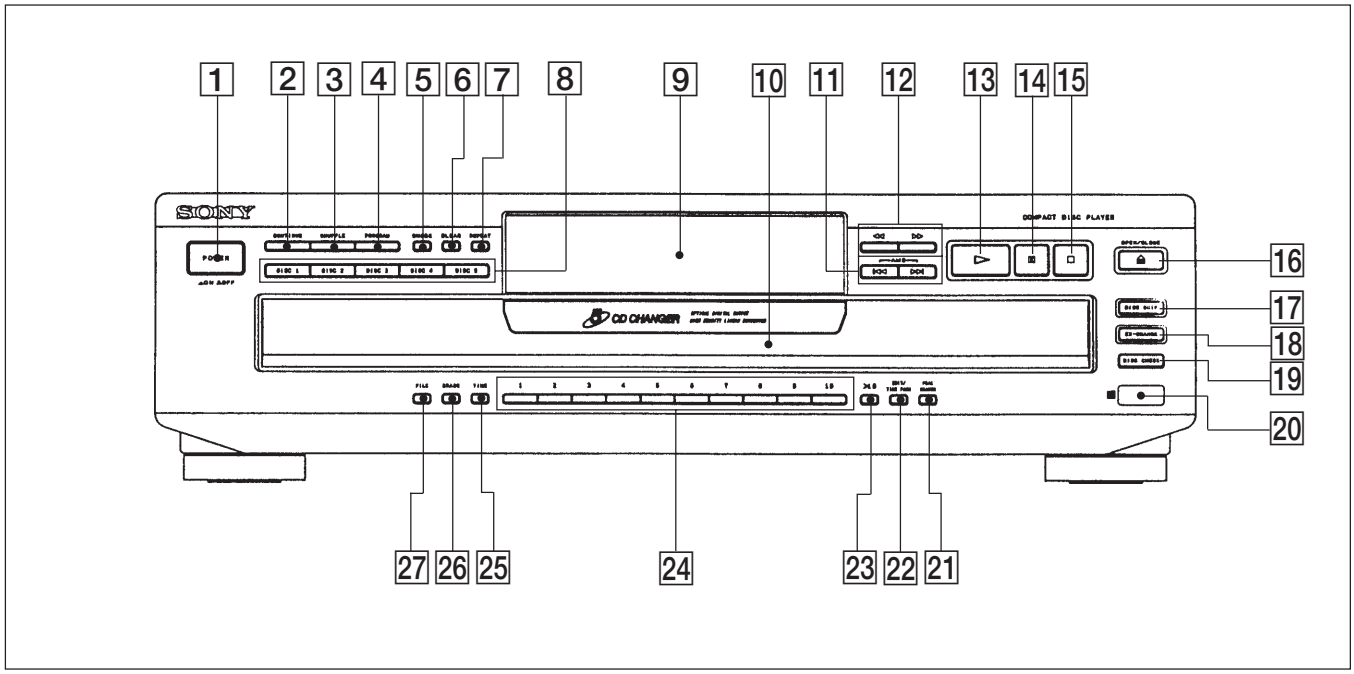
NOTE FOR MAIN GAER INSTALLATION


❺ Stopper washer (5)
❹ Install the MAIN GEAR as show in the drawing.
❸ Rotate the GEAR (U/D) to the arrow Ⓐ direction.
Ⓐ
Ⓑ
❷ Slide the SET LEVER to the arrow Ⓑ direction.
❶ Set the mark of ROTARY ENCODER.

SECTION 1
GENERAL

Identifying the Parts

Front Panel



1 POWER switch
2 CONTINUE button
3 SHUFFLE button
4 PROGRAM button
5 CHECK button
6 CLEAR button
7 REPEAT button
8 DISC 1-5 buttons
9 Display window
10 Disc tray
11 I◄◄/►►I (AMS*) buttons
12 ◄◄/►► (manual search) buttons
13 ► (play) button
14 II (pause) button
15 ■ (stop) button
16 ⏏ OPEN/CLOSE button
17 DISC SKIP button
18 EX-CHANGE button
19 DISC CHECK button (CDP-CE305/CE405 only)
20 Remote sensor
21 PEAK SEARCH button (CDP-CE305/CE405 only)
22 EDIT/TIME FADE button (CDP-CE305/CE405 only)
23 >10 (over 10) button
24 Numeric (1-10) buttons
25 TIME button
26 FADER button
27 MUSIC SCAN button

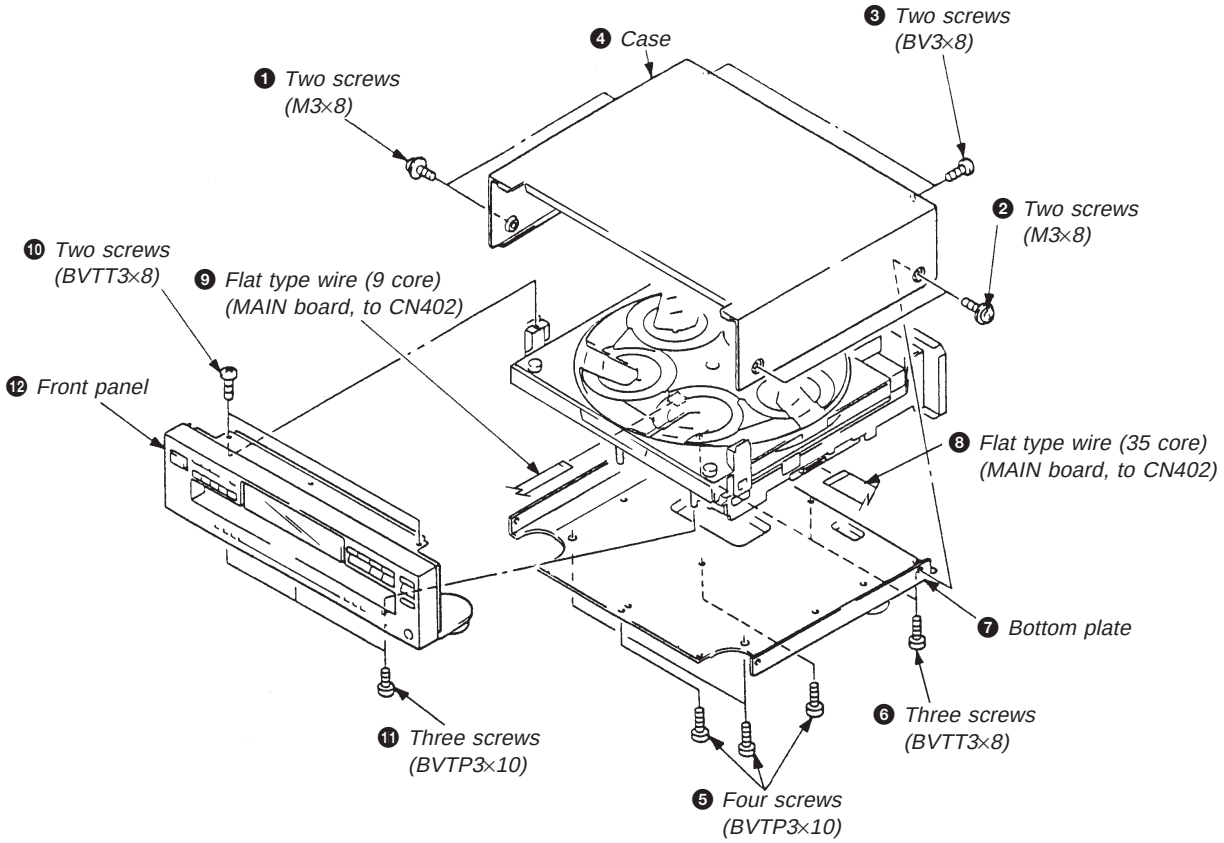
* AMS is the abbreviation for Automatic Music Sensor.

SECTION 2

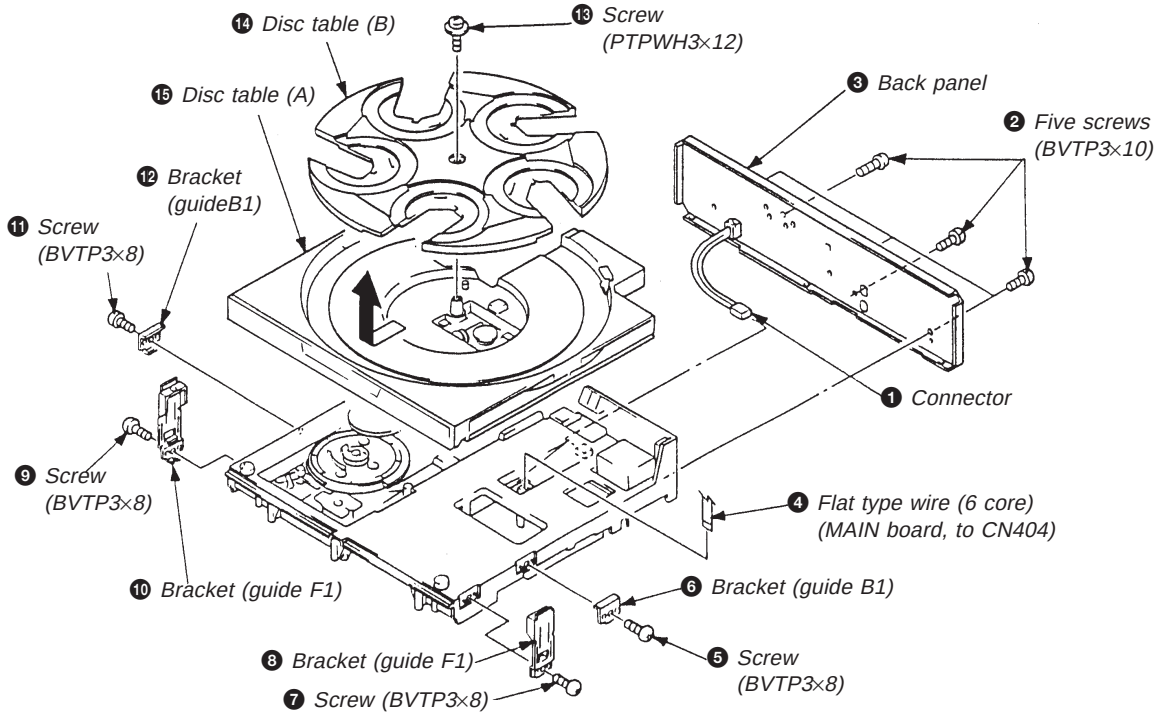
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

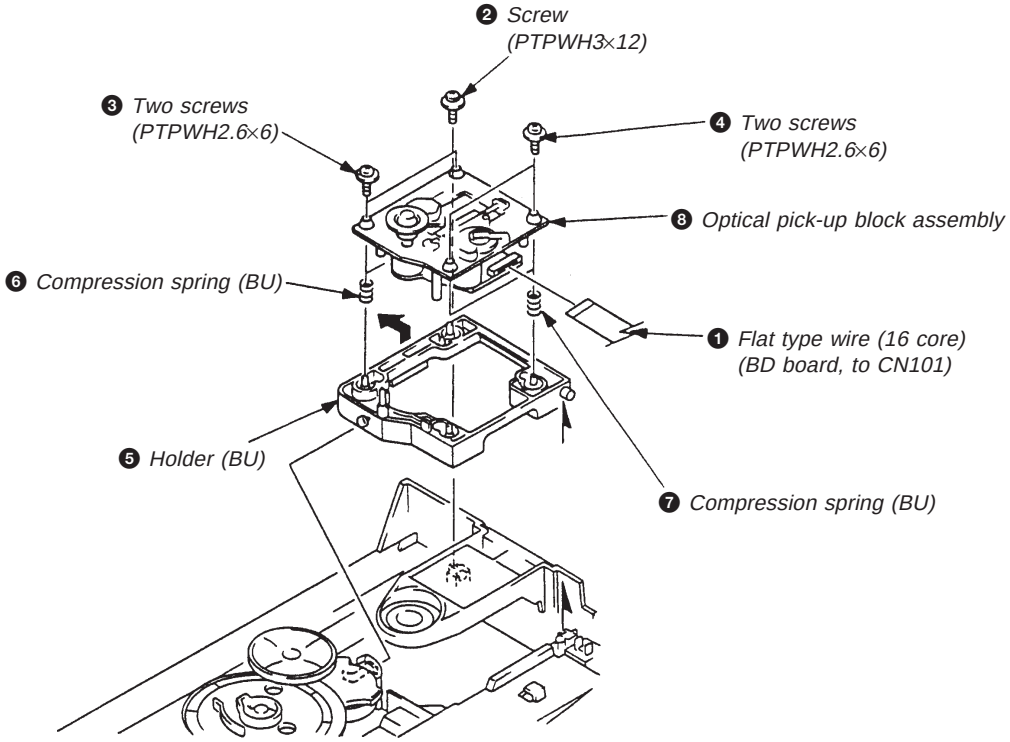
2-1. CASE, BOTTOM PLATE AND FRONT PANEL


❸ Two screws (BV3×8)
❹ Case
❶ Two screws (M3×8)
❷ Two screws (M3×8)
❿ Two screws (BVTT3×8)
❾ Flat type wire (9 core) (MAIN board, to CN402)
⓬ Front panel
❽ Flat type wire (35 core) (MAIN board, to CN402)
❼ Bottom plate
⓫ Three screws (BVTP3×10)
❻ Three screws (BVTT3×8)
❺ Four screws (BVTP3×10)

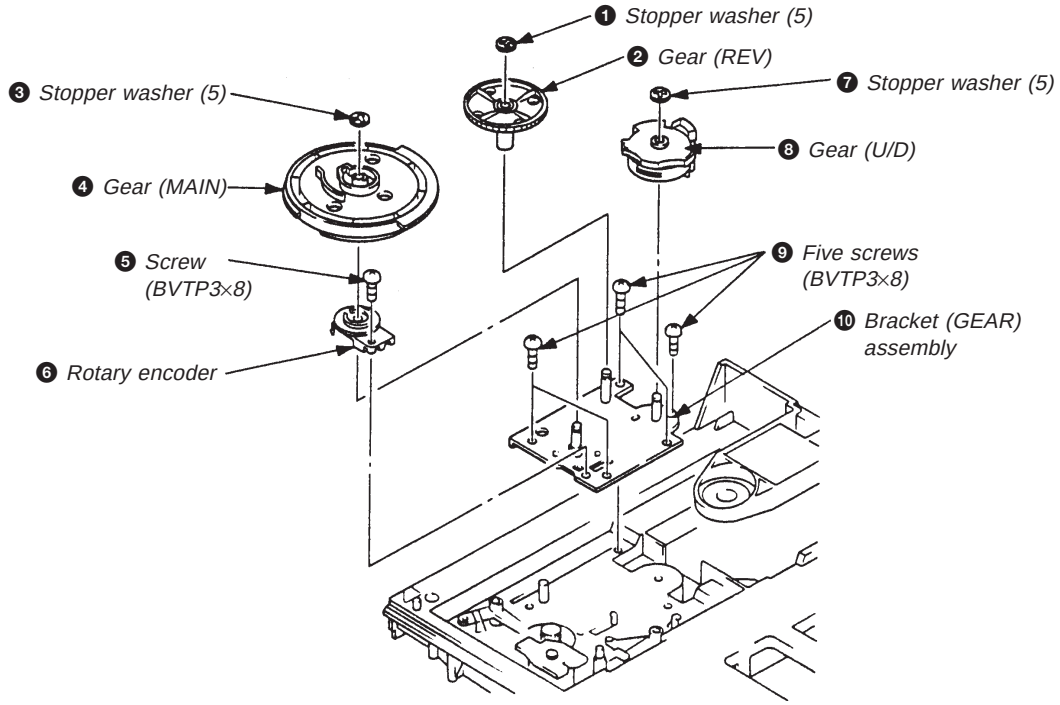
2-2. BACK PANEL AND DISC TABLE



2-3. OPTICAL PICK-UP BLOCK ASSEMBLY



2-4. BRACKET (GEAR) ASSEMBLY



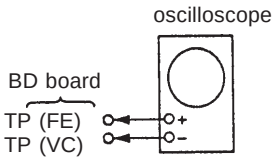
Note : As for the installation of the main gear, refer to "Note for MAIN GAER installation" on page 4.

SECTION 3
ELECTRICAL BLOCK CHECKING

Note :

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M impedance.
4. Clean the object lens using an applicator with neutral detergent when the signal level is low than specified value with the following checks.

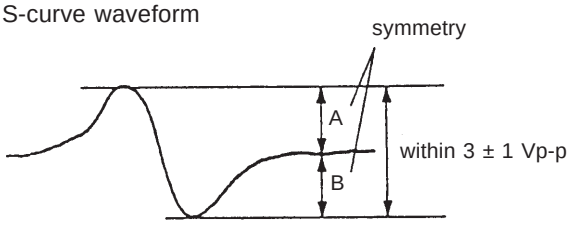
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turn Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check if the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

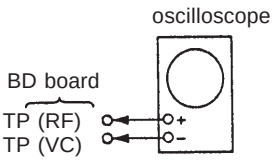
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



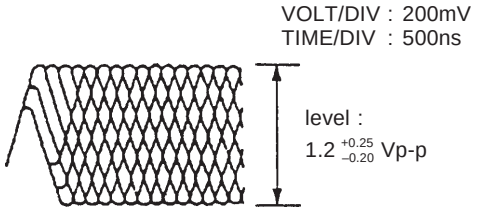
Procedure :

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check if RF signal level is correct or not.

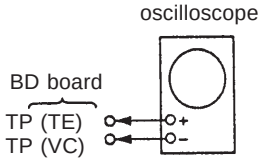
Note :

A clear RF signal waveform means that the shape " ◊ " can be clearly distinguished at the center of the waveform.

RF signal waveform



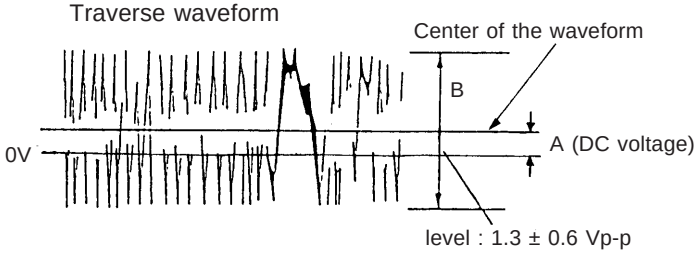
E-F Balance Check



Procedure :

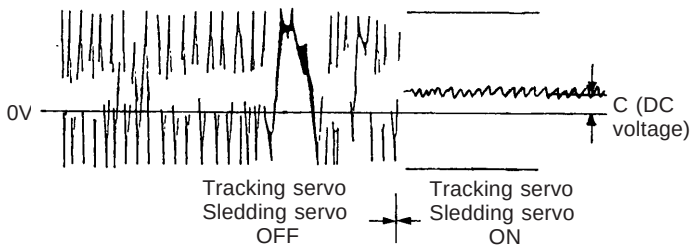
1. Connect test point TP (ADJ) to ground with a lead wire.
2. Connect oscilloscpe to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the "3" button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following :
   $A/B \times 100$ = less than ± 22%

Traverse waveform



7. Press the "8" button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 6.

Traverse waveform

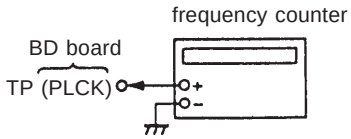


8. Disconnect the lead wire of TP (ADJ) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

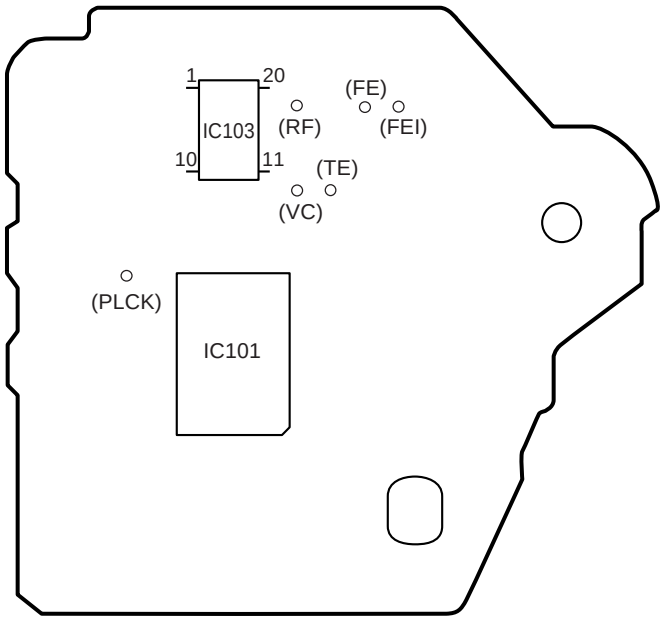
1. Connect frequency counter to test point (PLCK) with lead wire.



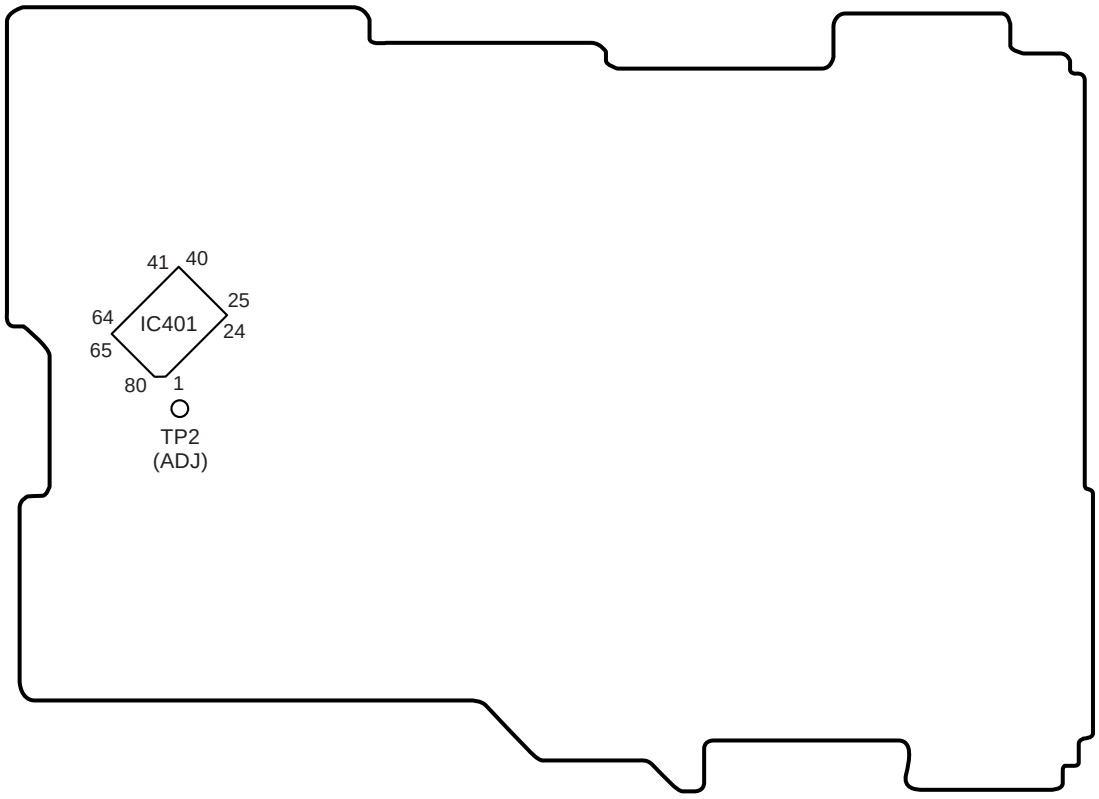
2. Turned Power switch on.
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[BD BOARD] — Conductor Side —

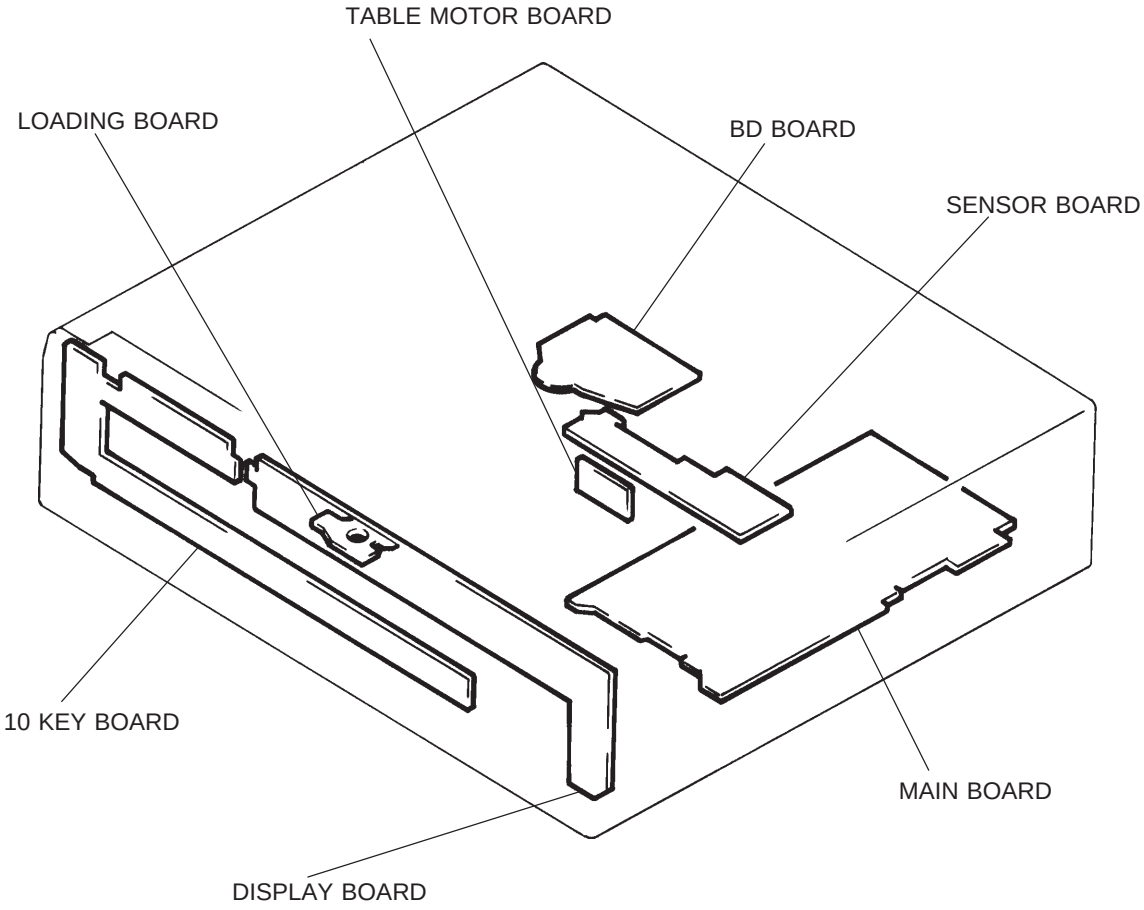


[MAIN BOARD] — Conductor Side —



SECTION 4
DIAGRAMS

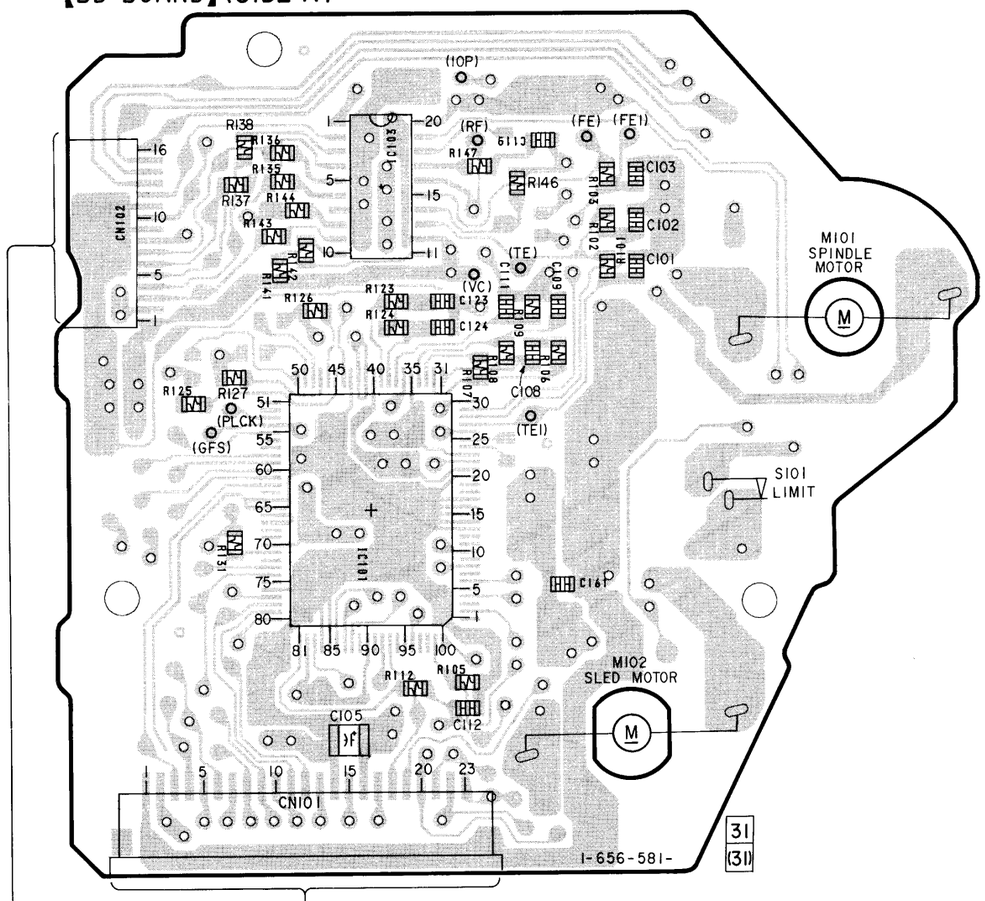
4-1. CIRCUIT BOARDS LOCATION



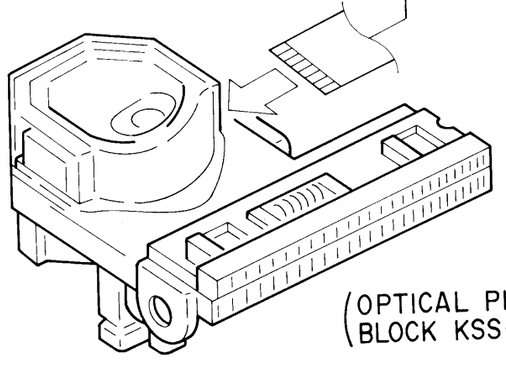
4-2. PRINTED WIRING BOARD — BD SECTION —

• See page 10 for Circuit Board Location.

【BD BOARD】(SIDE A)



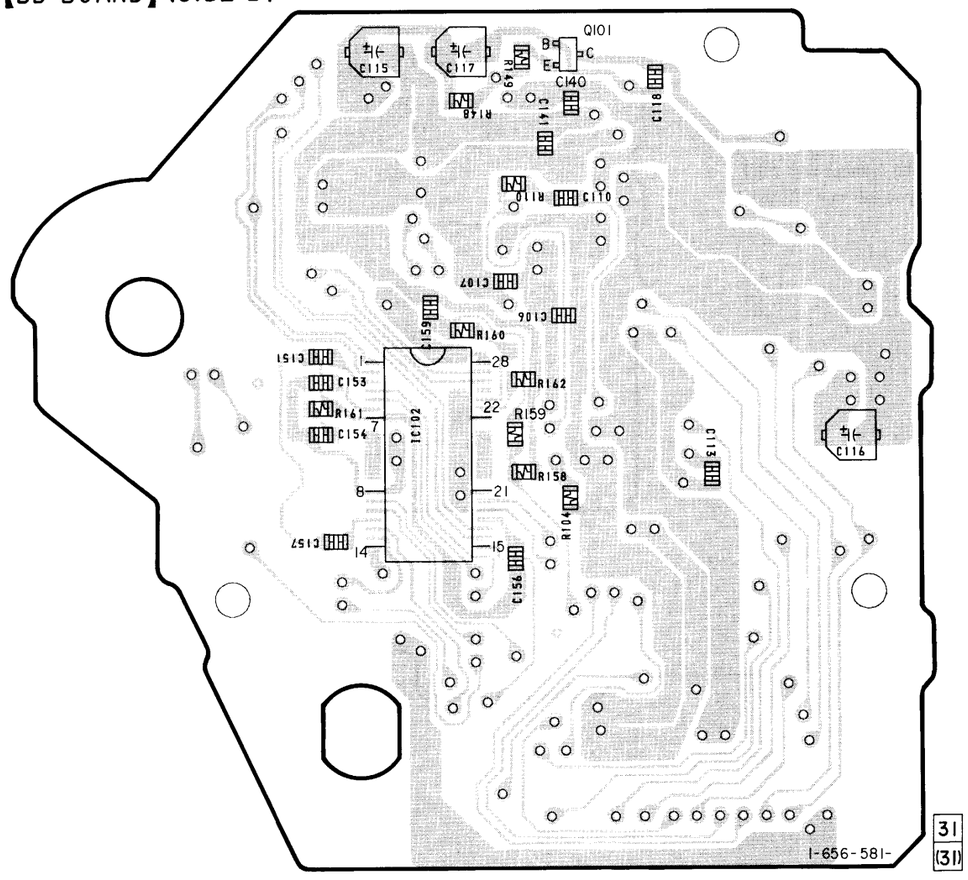
A MAIN BOARD CN401 (Page 20)



09

(OPTICAL PICK-UP BLOCK KSS-213B/K-N)

【BD BOARD】(SIDE B)



- **Semiconductor Location**

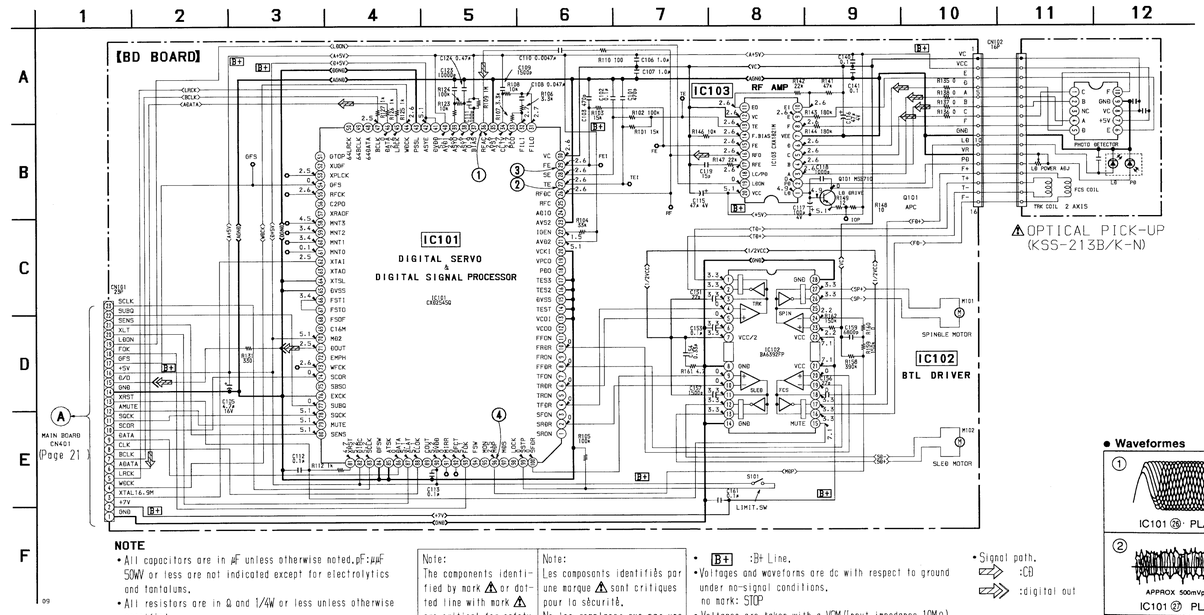
Ref. No.	Location
IC101	C-2
IC102	C-7
IC103	B-2
Q101	A-8

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the component side.
- ○ : Through hole.
- : Pattern form the side which enable seeing. (The other layer's patterns are not indicated.)

4-3. SCHEMATIC DIAGRAM — BD SECTION —

• See page 24 for IC Pin Functions. (IC101)



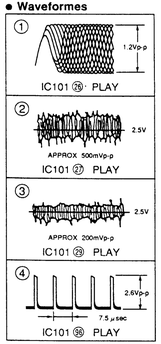
NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark: STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

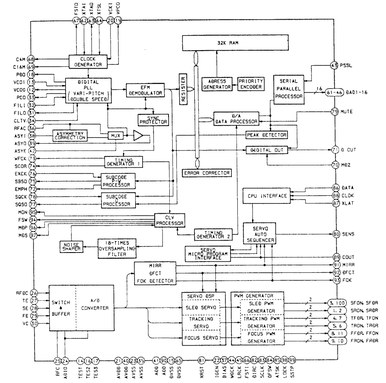
• Waveformes



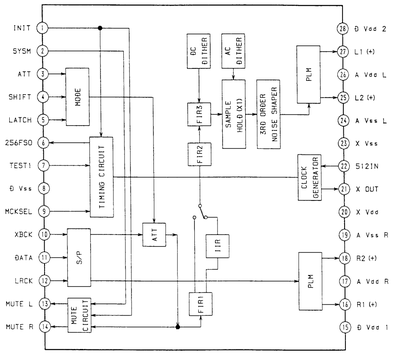
• Signal path.
: CD
: digital out

4-4. IC BLOCK DIAGRAMS

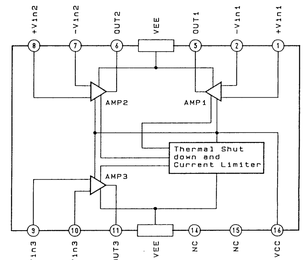
IC101 CXA2545Q



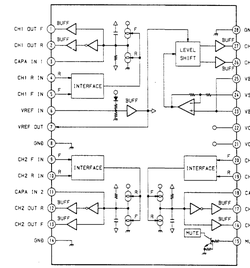
IC301 CXD8567AM



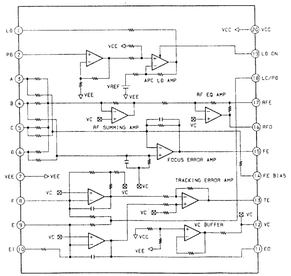
IC304 CXA1291P



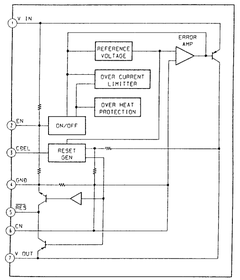
IC102 BA6392FP



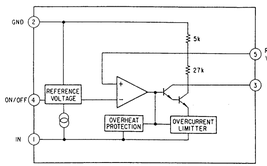
IC103 CXA1821M



IC601 LA5602



IC603 M5293L



4-5. PRINTED WIRING BOARD — MAIN SECTION —

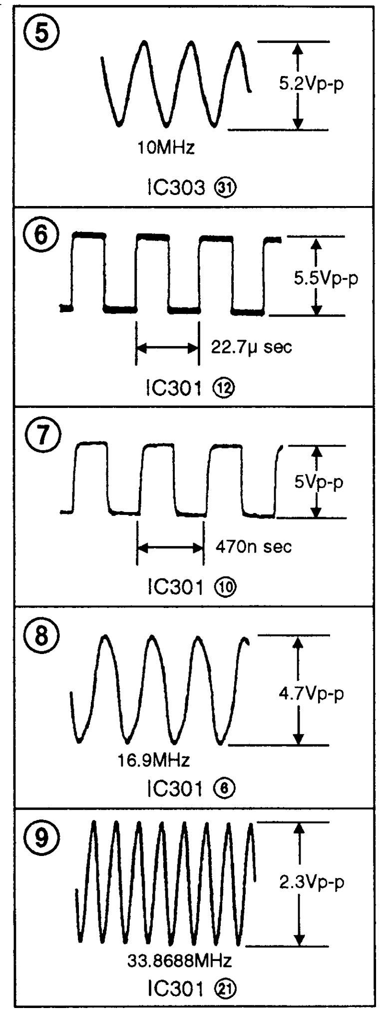
• See page 10 for Circuit Board Location.

[10 KEY BOARD]
S751 POWER
OFF
ON
S708 MUSIC SCAN
S709 FADER
S719 TIME
S707 1
S727 2
S726 3
S725 4
S724 5
S723 6
S722 7
S701 8
S702 9
S703 10
S704 >10
S705 EDIT/TIME FADE
S706 PEAK SEARCH
EXCEPT C250Z/C350Z MODEL
CN701
S720 DISC 1
S721 DISC 2
S718 DISC 3
S717 DISC 4
S716 DISC 5
S710 CONTINUE
S711 SHUFFLE
S712 PROGRAM
S713 CHECK
S714 CLEAR
S715 REPEAT
1-659-158-
[DISPLAY BOARD]
FL801
FLUORESCENT INDICATOR TUBE
S807
S806
AMS
S808
S809
S805
S804
S803
S802 OPEN/CLOSE
IC801
EXCEPT C250Z/C350Z MODEL
S811 DISC CHECK
S810 EX-CHANGE
S801 DISC SKIP
CN801
1-659-157-
[TABLE MOTOR BOARD]
M801 TABLE MOTOR
CN761
1-647-364-
[SENSOR BOARD]
D852
D851
CN851
CN852
R851
R852
1-659-737-
[LOADING MOTOR BOARD]
CN762
M802 LOADING MOTOR
1-659-738-
[ROTARY ENCODER]
[MAIN BOARD]
CN402
CN403
CN405
IC303
IC304
IC301
IC401
IC501
IC601
IC602
IC603
T601 POWER TRANSFORMER
S601 VOLTAGE SELECTOR
220 - 240V
110 - 120V
CE305·E/CE405·E MODEL
EXCEPT CE305·E/CE405·E MODEL
✱ NOT REPLACEBLE : BUILT IN TRANSFORMER
CN601
AC IN
J301 LINE OUT VARIABLE
R
L
TP1 (AFADJ)
TP2 (ADJ)
CN401
BD BOARD CN101 (Page 11)
1-659-160-

Note:

- o——— : parts extracted from the component side.
- ——— : parts extracted from the component side.
- △ : Internal component.
- ▒▒▒ : Pattern form the side which enable seeing.

• Waveforms

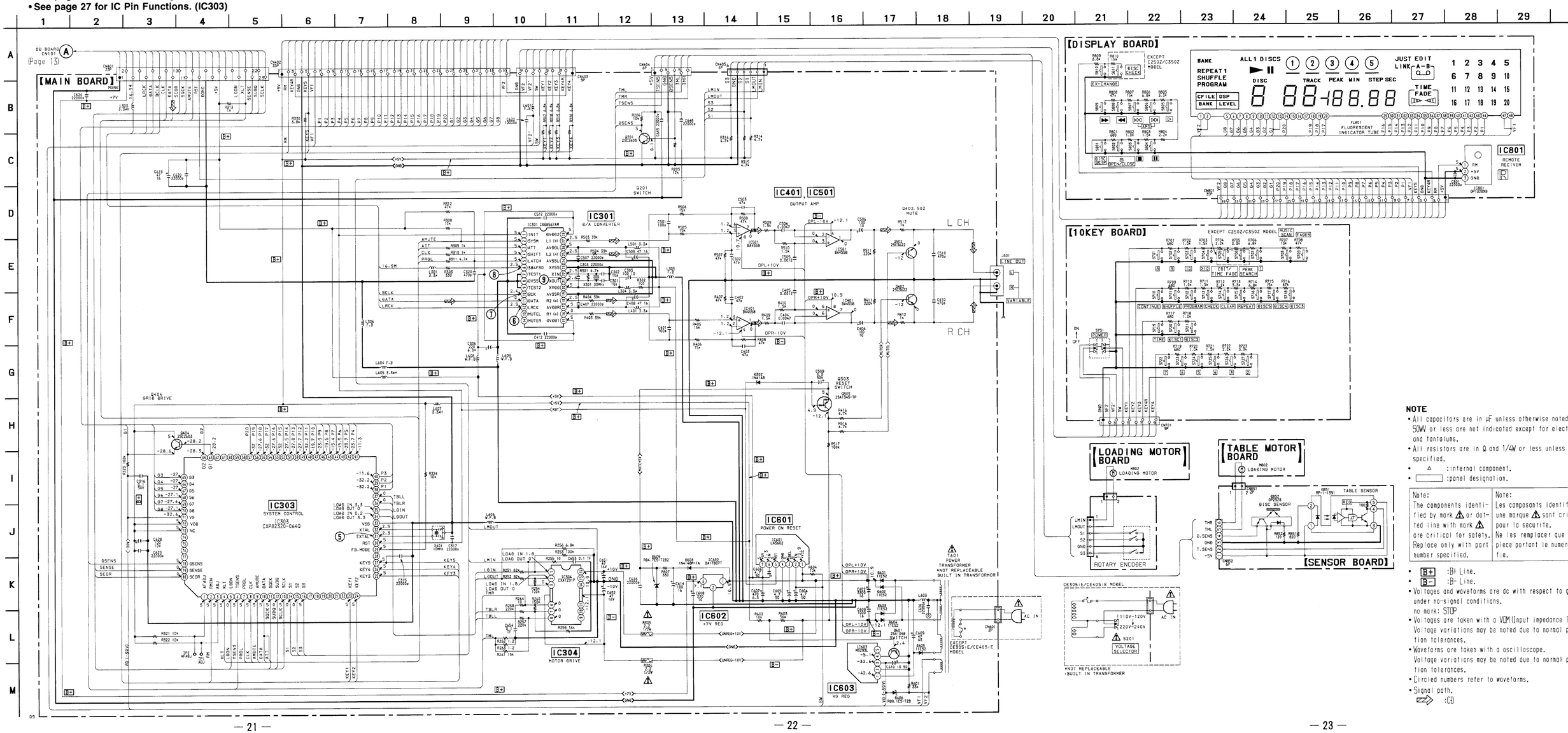


• Semiconductor Location

Ref. No.	Location
D302	H-24
D601	C-26
D602	B-26
D603	B-25
D604	B-25
D605	C-26
D606	C-26
D608	D-25
D609	D-25
D851	I-8
D852	I-5
IC301	F-24
IC303	D-19
IC304	D-21
IC401	G-27
IC501	F-27
IC601	C-24
IC602	D-24
IC603	C-26
IC801	D-14
Q201	F-21
Q402	G-28
Q404	C-19
Q502	G-29
Q503	H-29
Q601	C-26

4-6. SCHEMATIC DIAGRAM — MAIN SECTION —

- See page 16 for IC Block Diagrams.
- See page 27 for IC Pin Functions. (IC303)



NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la securité. Ne les remplacer que par une piece portant le numero specifié.

- B+ : B+ Line.
- B− : B− Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

4-7. IC PIN FUNCTIONS

• IC101 DIGITAL SIGNAL PROCESSOR (CXD2545Q)

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output (Not used)
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output (Not used)
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output (Not used)
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output (Not used)
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output (Not used)
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output (Not used)
12	VCOO	O	VCO output for analog EFM PLL (Not used)
13	VCOI	I	VCO output for analog EFM PLL (GND)
14	TEST	I	TEST pin connected normally to GND
15	DVss	–	Digital GND
16	TES2	I	TEST pin connected normally to GND
17	TES3	I	TEST pin connected normally to GND
18	PDO	O	Charge-pump output for analog EFM PLL (Not used)
19	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
20	VCKI	I	Clock input from variable pitch external VCO (GND)
21	AVD2	–	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	–	Analog GND
24	ADIO	I	(Not used)
25	RFC	O	(Not used)
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	–	Analog GND
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASYI	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	–	Analog power supply

Pin No.	Pin Name	I/O	Function
41	DV_{DD}	–	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock.
45	LRCK	O	48-bit slot D/A interface. LR clock.
46	DATA	O	DA 16 output when PSSL=1.48-bit slot serial data when PSSL=0
47	BCLK	O	DA 15 output when PSSL=1.48-bit slot data when PSSL=0
48	64DATA	O	DA 14 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
49	64BCLK	O	DA 13 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
50	64LRCK	O	DA 12 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
51	GTOP	O	DA 11 output when PSSL=1.GTOP output when PSSL=0 (Not used)
52	XUGF	O	DA 10 output when PSSL=1.XUGF output when PSSL=0 (Not used)
53	XPLCK	O	DA 09 output when PSSL=1.XPLCK output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1.GFS output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1.RFCK output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1.C2PO output when PSSL=0 (Not used)
57	XRAOF	O	DA 05 output when PSSL=1.XRA0F output when PSSL=0
58	MNT3	O	DA 04 output when PSSL=1.MNT3 output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1.MNT2 output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1.MNT1 output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1.MNT0 output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output (Not used)
64	XTSL	I	X'tal selection input pin (GND)
65	DVss	–	Digital GND
66	FSTI	I	2/3 divider output of pins 62, 63
67	FSTO	O	2/3 divider output of pins 62, 63
68	FSOF	O	(Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin (+5V)
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode (Not used)
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output (Not used)
76	EXCK	I	Clock input for SBS0 read-out (GND)
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	I	Muting selection pin
79	MUTE	I	SENS output
80	SENS	O	System reset

Pin No.	Pin Name	I/O	Function
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode (+5v)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin (GND)
85	ATSK	I	Input pin for anti-shock (GND)
86	DATA	I	Serial data input, supplied from CPU
87	XLAT	I	Latch input, supplied from CPU
88	CLOK	I	Serial data transfer clock input, supplied from CPU
89	COUT	O	Numbers of track counted signal output (Not used)
90	DV_{DD}	–	Digital power supply
91	MIRR	O	Mirror signal output
92	DFCT	O	Defect signal output
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter (Not used)
95	MON	O	Output to control ON/OFF of spindle motor (Not used)
96	NDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo (Not used)
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

• **IC303 SYSTEM CONTROL (CXP82320-064Q)**

Pin No.	Pin Name	I/O	Function
1	AF ADJ	I	Test mode pin. Normally: “H”
2	RM IN	I	Remote control signal input pin.
3	ADJ	I	Test mode pin. Normally: “H”
4	XLT	O	Serial data latch signal output pin.
5	LDON	O	Optical pick-up laser diode control pin. ON: “H”
6	TSENS	I	Slit sensor of disc table input pin.
7	PRGL	O	Latch signal output pin to digital filter IC.
8	CLK	O	Serial clock output pin.
9	AMUTE	O	Analog muting control signal output pin.
10	DATA	O	Serial data output pin.
11	SQCK	O	Subcode Q data readout clock output pin.
12	SUBQ	I	Subcode Q data input pin.
13	SCLK	O	Internal register of SSP/DSP readout clock output pin.
14 to 16	S1 to S3	I	Loading encoder input pin.
17 to 22	–	–	Not used.
23 to 27	KEY1 to KEY5	I	Key input pin. (A/D)
28	–	–	Not used.
29	FB. MODE	I	Disc table feeling and stop precision fine adjustment pin.
30	RST	I	Reset signal input pin.
31	EXTAL	I	10MHz clock input pin.
32	XTAL	O	10MHz clock output pin.
33	Vss	–	GND
34	LODOUT	O	Loading motor control pin.
35	LODIN	O	Loading motor control pin.
36	TBLR	O	Table motor control pin.
37	TBLL	O	Table motor control pin.
38 to 57	P1 to P20	O	FL segment output pin.
58 to 62	–	–	Not used.
63 to 70	G1 to G8	O	FL timing output pin.
71	VG	–	–30V
72	V_{DD}	–	+5V
73	–	–	+5V
74 to 77	–	–	Not used.
78	D.SENS	I	Disc sensor input pin. “L”: disc preset.
79	SENSE	I	SENSE signal input pin.
80	SCOR	I	Subcode Q data readout timing signal input pin.

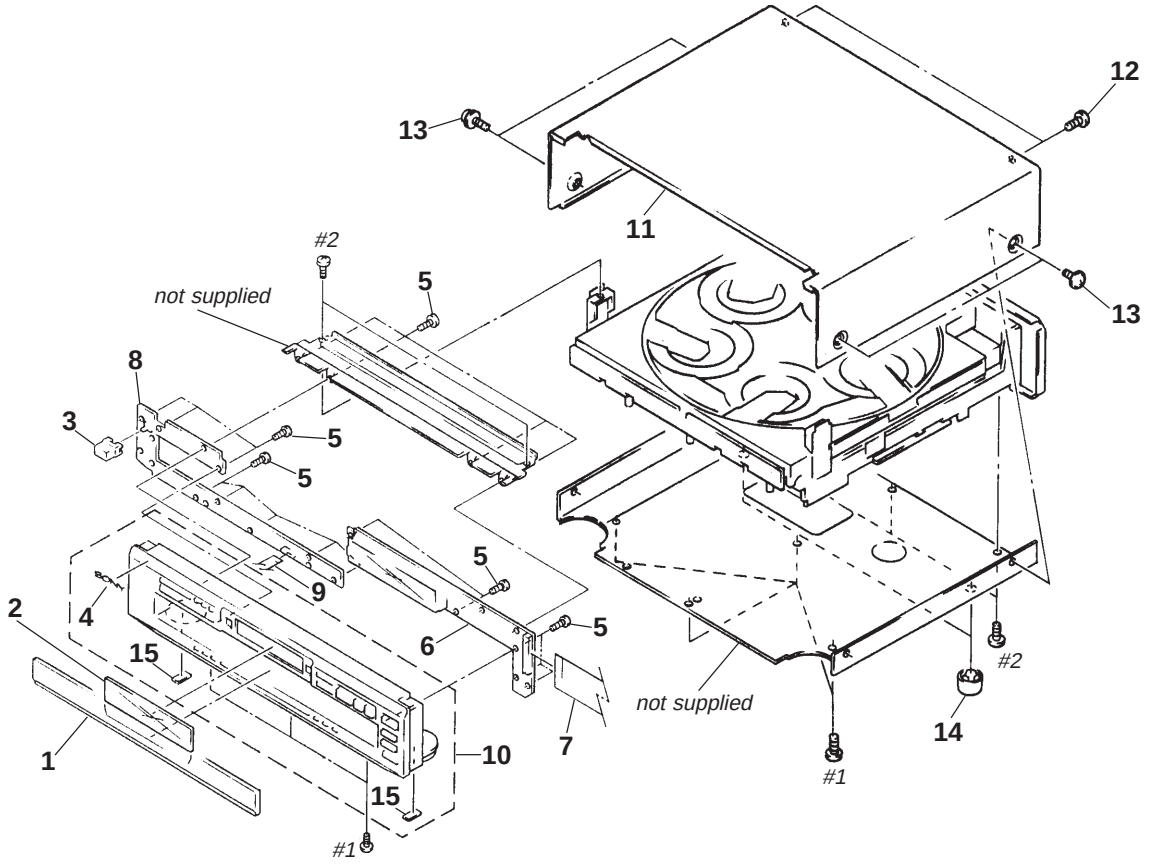
SECTION 5
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND :Canadian model
  G :German model
  EE :East European model
  AUS :Australina model
  CH :Chinese model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

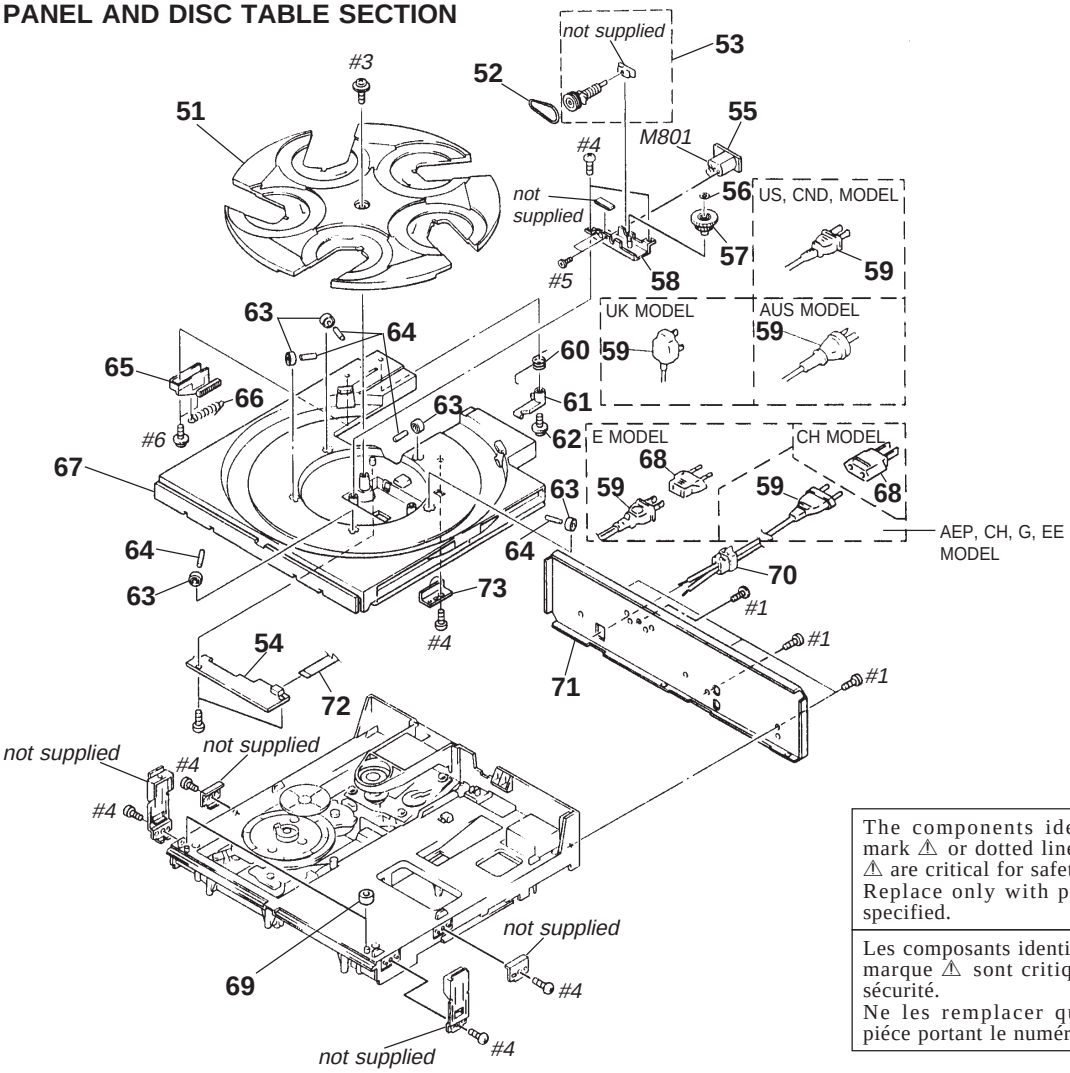
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. FRONT PANEL AND CASE SECTION



REF.No.	Part No.	Description	Remark
1	4-978-488-01	PANEL, LOADING	
2	4-978-487-01	PLATE (FL), INDICATION	
3	4-977-589-01	KNOB, POWER	
4	4-963-404-21	EMBLEM (5-A), SONY	
5	4-951-620-01	SCREW (2.6 x 8), +BVTP	
* 6	A-4673-782-A	DISPLAY BOARD, COMPLETE (CE305/CE405)	
* 6	A-4673-954-A	DISPLAY BOARD, COMPLETE (C250Z/C350Z)	
7	1-776-125-11	WIRE (FLAT TYPE) (35 CORE)	
* 8	A-4673-781-A	10 KEY BOARD, COMPLETE (CE305/CE405)	
* 8	A-4673-953-A	10 KEY BOARD, COMPLETE (C250Z/C350Z)	
9	1-776-124-11	WIRE (FLAT TYPE) (9 CORE)	
10	X-4946-567-1	PANEL ASSY, FRONT (CE305: US, CND)	
10	X-4946-568-1	PANEL ASSY, FRONT (CE305: AEP, E, AUS, CH, G)	
10	X-4946-569-1	PANEL ASSY, FRONT (CE405: US, CND)	
10	X-4946-570-1	PANEL ASSY, FRONT (CE405: AEP, UK, E, AUS, CH, G, EE)	
10	X-4946-961-1	PANEL ASSY, FRONT (C250Z)	
10	X-4946-962-1	PANEL ASSY, FRONT (C350Z)	
* 11	4-978-492-11	CASE	
12	3-703-685-21	SCREW (+BV 3 x 8)	
13	3-704-366-01	SCREW (CASE) (M3 x 8)	
14	4-933-601-01	FOOT	
15	4-978-398-01	CUSHION	

5-2. BACK PANEL AND DISC TABLE SECTION

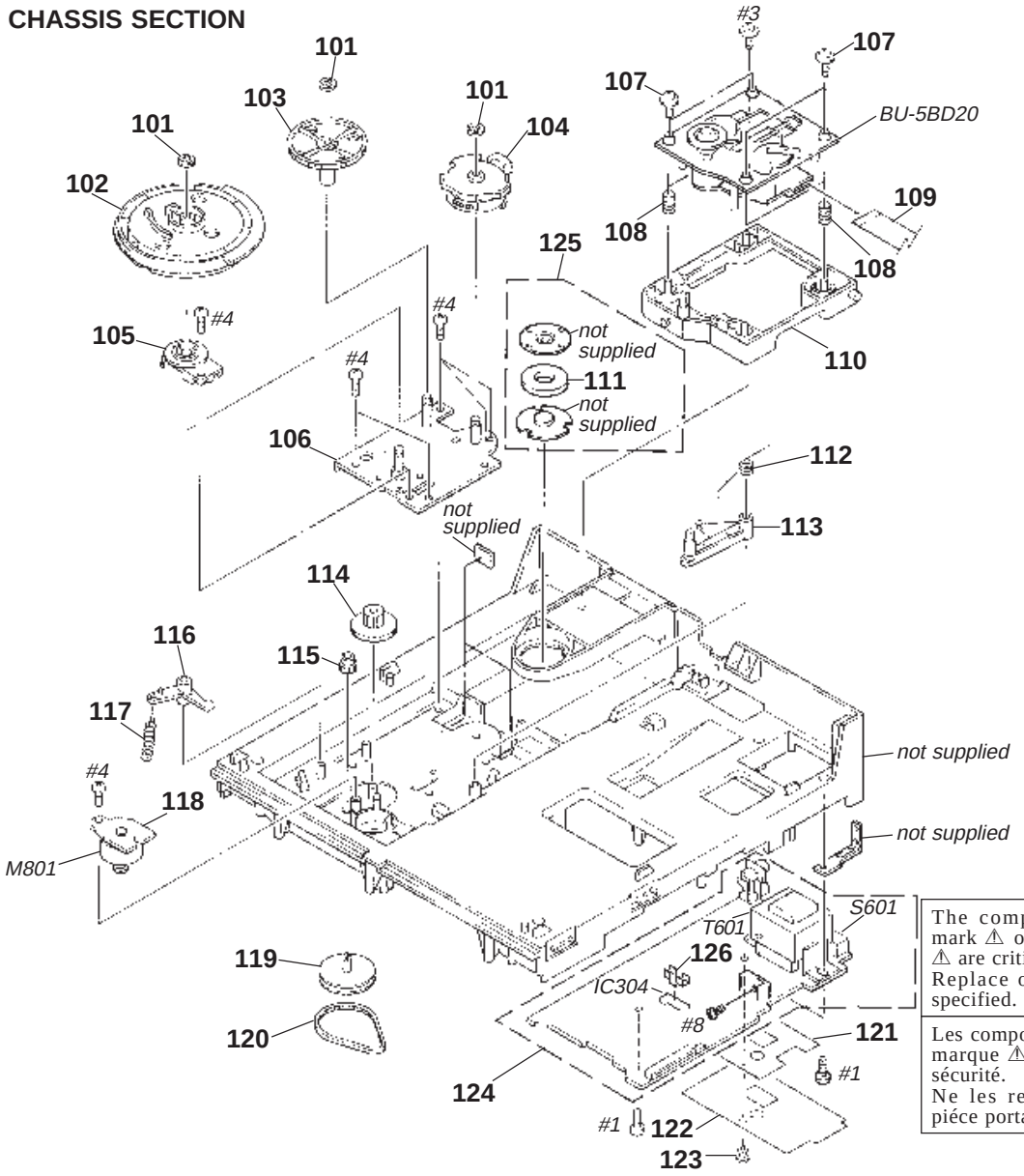


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF.No.	Part No.	Description	Remark
51	4-957-299-11	TABLE (B), DISC	
52	4-957-304-01	BELT (RM)	
53	X-4943-479-1	GEAR (ROTARY A) ASSY	
* 54	1-659-737-11	SENSOR BOARD	
* 55	1-647-364-11	TABLE MOTOR BOARD	
56	3-325-697-01	WASHER	
57	4-957-284-01	GEAR (ROTARY B)	
58	X-4943-477-1	BRACKET (RM) ASSY	
⚠59	1-558-943-61	CORD, POWER (E)	
⚠59	1-575-651-21	CORD, POWER (AEP, CH, G, EE)	
⚠59	1-590-926-11	CORD, POWER (US, CND)	
⚠59	1-696-845-11	CORD, POWER (AUS)	
⚠59	1-751-529-11	CORD, POWER (UK)	
60	4-957-293-01	SPRING (RACK RELEASE)	
61	4-957-291-01	LEVER (RACK RELEASE)	
62	4-957-868-01	SCREW (+PTPWH 2.6 x 20)	
63	X-4924-457-1	ROLLER ASSY	
64	4-934-376-01	SHAFT (ROLLER)	
65	4-957-292-01	SLIDER (RACK)	
66	4-957-294-01	SPRING (D.T), TENSION	
67	4-957-298-01	TABLE (A), DISC	
⚠68	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠68	1-569-008-11	ADAPTER, CONVERSION 2P (CH)	
* 69	4-951-619-01	CUSHION (A)	
* 70	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 70	3-703-571-11	BUSHING (S) (4516), CORD (E)	
* 71	4-978-490-01	PANEL, BACK (CE305: US)	
* 71	4-978-490-11	PANEL, BACK (CE305: CND)	
* 71	4-978-490-31	PANEL, BACK (CE305: G)	
* 71	4-978-490-41	PANEL, BACK (CE305: AUS)	
* 71	4-978-490-51	PANEL, BACK (CE305: E)	
* 71	4-978-490-61	PANEL, BACK (CE305: CH)	
* 71	4-978-490-71	PANEL, BACK (C250Z)	
* 71	4-978-490-81	PANEL, BACK (C350Z)	
* 71	4-978-767-01	PANEL, BACK (CE405: US)	
* 71	4-978-767-11	PANEL, BACK (CE405: CND)	
* 71	4-978-767-21	PANEL, BACK (AEP/CE405: CH, EE)	
* 71	4-978-767-31	PANEL, BACK (CE405: G)	
* 71	4-978-767-41	PANEL, BACK (UK)	
* 71	4-978-767-51	PANEL, BACK (CE405: AUS)	
* 71	4-978-767-61	PANEL, BACK (CE405: E)	
72	1-751-052-11	WIRE (FLAT TYPE) (6 CORE)	
73	X-4943-480-1	BRACKET (ROLLER D) ASSY	
M801	A-4660-525-A	MOTOR ASSY, ROTARY (TABLE)	

5-3. CHASSIS SECTION

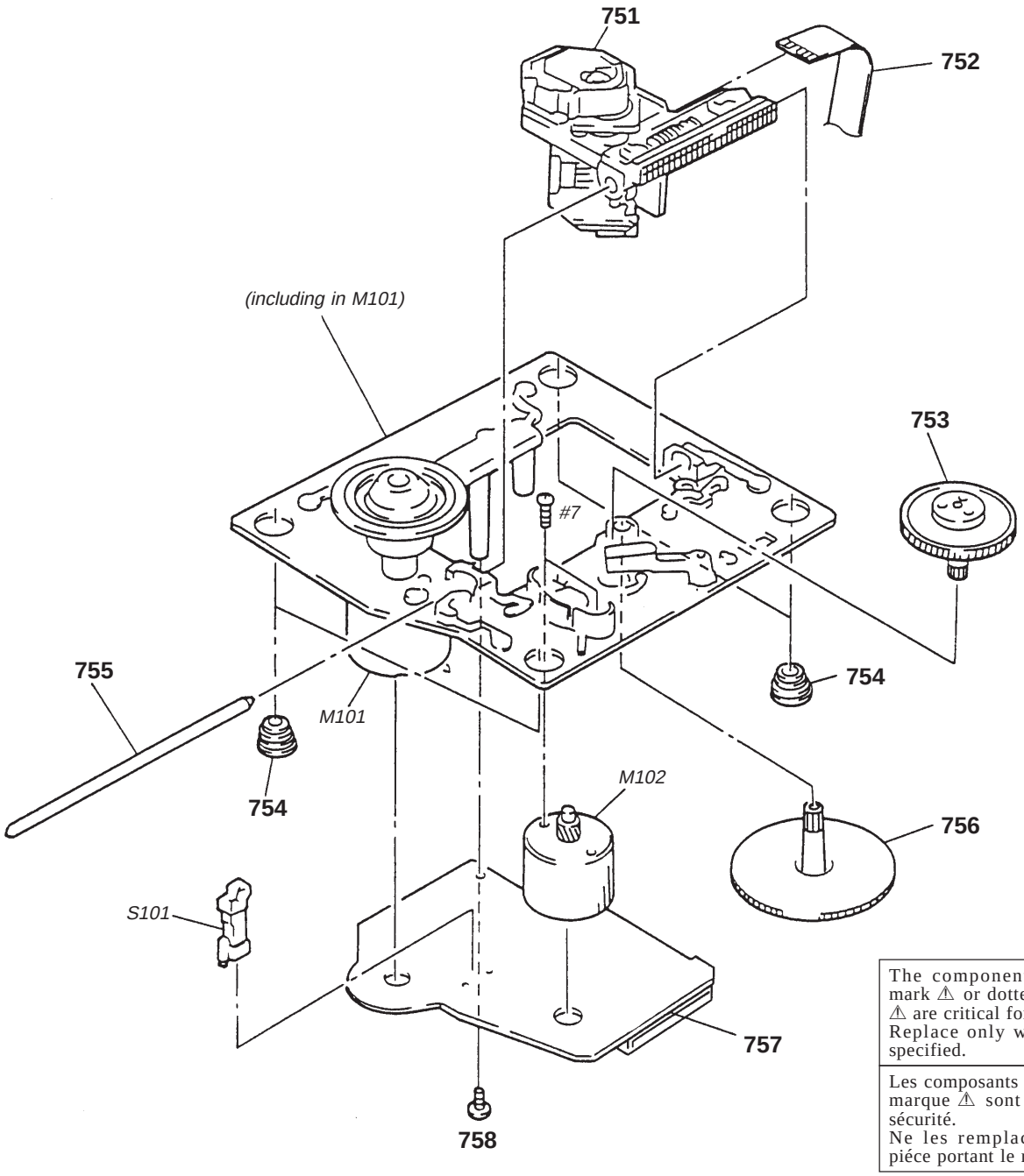


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF.No.	Part No.	Description	Remark
101	4-957-283-01	WASHER (5), STOPPER	
102	4-957-288-01	GEAR (MAIN)	
103	4-957-287-01	GEAR (REV)	
104	4-957-286-01	GEAR (U/D)	
105	1-466-996-11	ENCODER, ROTARY	
106	X-4946-195-1	BRACKET (GEAR) ASSY	
107	4-933-134-01	SCREW (+PTPWH M2.6 x 6)	
108	4-948-503-01	SPRING (BU), COMPRESSION	
109	1-765-443-11	WIRE (FLAT TYPE) (23 CORE)	
110	4-957-289-12	HOLDER (BU)	
111	1-452-538-41	MAGNET	
112	4-957-281-01	SPRING (LOCK LEVER)	
113	4-957-279-01	LEVER, LOCK	
114	4-957-303-01	GEAR (LOADING C)	
115	4-934-375-01	GEAR (LOADING B)	
116	4-957-285-01	LEVER, SET	
117	4-962-087-01	SPRING (S), TENSION	
* 118	1-659-738-11	LOADING BOARD	
119	X-4941-529-1	PULLEY ASSY	
120	4-944-490-01	BELT (TIMING)	
* 121	4-957-555-01	SHEET, INSULATING (EXCEPT US, CND)	
* 122	4-957-556-01	SHEET, INSULATING (EXCEPT US, CND)	
123	3-531-576-11	RIVET (EXCEPT US, CND)	
* 124	A-4673-784-A	MAIN BOARD, COMPLETE (US, CND, CH)	
* 124	A-4673-785-A	MAIN BOARD, COMPLETE (EXCEPT US, CND, CH, E)	
* 124	A-4673-786-A	MAIN BOARD, COMPLETE (E)	
* 125	A-4660-652-A	MAGNET ASSY	
* 126	4-922-525-01	HEAT SINK	
⚠S601	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E)	
⚠T601	1-423-830-11	TRANSFORMER, POWER (US, CND)	
⚠T601	1-429-394-11	TRANSFORMER, POWER (EXCEPT US, CND, E)	
⚠T601	1-429-395-11	TRANSFORMER, POWER (E)	
M802	A-4660-914-A	MOTOR ASSY, LOADING (LOADING)	

5-4. BASE UNIT SECTION (BU-5BD20)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF.No.	Part No.	Description	Remark
⚠751	8-848-367-11	OPTICAL PICK-UP KSS-213B/K-N	
752	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
753	4-917-567-21	GEAR (M)	
754	4-951-940-01	INSULATOR (BU)	
755	4-917-565-01	SHAFT, SLED	
756	4-917-564-01	GEAR (P), FLATNESS	
* 757	A-4673-509-A	BD BOARD, COMPLETE	
758	4-951-620-01	SCREW (2.6 x 8), +BVTP	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

10 KEY **BD**

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  CND :Canadian model
  G :German model
  IT :Italian model
  EE :East European model
  AUS :Australian model
  CH : Chinese model

REF.No.	Part No.	Description				Remark
*	A-4673-781-A	10 KEY BOARD, COMPLETE (CE305/CE405)				
*	A-4673-953-A	10 KEY BOARD, COMPLETE (C250Z/C350Z)				
		**********				
		< CONNECTOR >				
* CN701	1-568-828-11	SOCKET, CONNECTOR 9P				
		< RESISTOR >				
R701	1-249-415-11	CARBON	680	5%	1/4W	F
R702	1-249-417-11	CARBON	1K	5%	1/4W	F
R703	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R704	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R705	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R706	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R707	1-249-431-11	CARBON	15K	5%	1/4W	
R708	1-249-437-11	CARBON	47K	5%	1/4W	
R709	1-249-415-11	CARBON	680	5%	1/4W	F
R710	1-249-417-11	CARBON	1K	5%	1/4W	F
R711	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R712	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R713	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R714	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R715	1-249-431-11	CARBON	15K	5%	1/4W	
R716	1-249-437-11	CARBON	47K	5%	1/4W	
R717	1-249-415-11	CARBON	680	5%	1/4W	F
R718	1-249-417-11	CARBON	1K	5%	1/4W	F
R719	1-249-415-11	CARBON	680	5%	1/4W	F
R720	1-249-417-11	CARBON	1K	5%	1/4W	F
R721	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R722	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R723	1-249-423-11	CARBON	3.3K	5%	1/4W	F
		< SWITCH >				
S701	1-554-303-21	SWITCH, TACTILE (8)				
S702	1-554-303-21	SWITCH, TACTILE (9)				
S703	1-554-303-21	SWITCH, TACTILE (10)				
S704	1-554-303-21	SWITCH, TACTILE (>10)				
S705	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE) (CE305/CE405)				
S706	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH) (CE305/CE405)				
S707	1-554-303-21	SWITCH, TACTILE (1)				
S708	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)				
S709	1-554-303-21	SWITCH, TACTILE (FADER)				
S710	1-554-303-21	SWITCH, TACTILE (CONTINUE)				
S711	1-554-303-21	SWITCH, TACTILE (SHUFFLE)				
S712	1-554-303-21	SWITCH, TACTILE (PROGRAM)				
S713	1-554-303-21	SWITCH, TACTILE (CHECK)				
S714	1-554-303-21	SWITCH, TACTILE (CLEAR)				
S715	1-554-303-21	SWITCH, TACTILE (REPEAT)				
S716	1-554-303-21	SWITCH, TACTILE (DISC 5)				
S717	1-554-303-21	SWITCH, TACTILE (DISC 4)				
S718	1-554-303-21	SWITCH, TACTILE (DISC 3)				
S719	1-554-303-21	SWITCH, TACTILE (TIME)				
S720	1-554-303-21	SWITCH, TACTILE (DISC 1)				
S721	1-554-303-21	SWITCH, TACTILE (DISC 2)				
S722	1-554-303-21	SWITCH, TACTILE (7)				
S723	1-554-303-21	SWITCH, TACTILE (6)				
S724	1-554-303-21	SWITCH, TACTILE (5)				
S725	1-554-303-21	SWITCH, TACTILE (4)				
S726	1-554-303-21	SWITCH, TACTILE (3)				
S727	1-554-303-21	SWITCH, TACTILE (2)				
S751	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER)				
**********						
*	A-4673-509-A	BD BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V	
C106	1-164-346-11	CERAMIC CHIP	1uF		16V	
C107	1-164-346-11	CERAMIC CHIP	1uF		16V	
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V	
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V	
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V	
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V	
C117	1-126-209-11	ELECT	100uF	20%	4V	
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V	
C119	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V	

REF.No.	Part No.	Description			Remark
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C140	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C156	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C157	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR, FFC 23P			
CN102	1-770-014-11	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC101	8-752-369-78	IC CXD2545Q			
IC102	8-759-176-09	IC BA6392FP			
IC103	8-752-072-45	IC CXA1821M-T6			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R110	1-216-025-91	METAL GLAZE	100	5%	1/10W
R112	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R125	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R126	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R127	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R135	1-216-295-91	CONDUCTOR, CHIP		(2012)	
R136	1-216-295-91	CONDUCTOR, CHIP		(2012)	
R137	1-216-295-91	CONDUCTOR, CHIP		(2012)	
R138	1-216-295-91	CONDUCTOR, CHIP		(2012)	
R141	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R142	1-216-081-00	METAL CHIP	22K	5%	1/10W
R143	1-216-103-91	METAL GLAZE	180K	5%	1/10W
R144	1-216-103-91	METAL GLAZE	180K	5%	1/10W
R146	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-081-00	METAL CHIP	22K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-003-11	METAL GLAZE	12	5%	1/10W

REF.No.	Part No.	Description				Remark
R158	1-216-111-91	METAL GLAZE	390K	5%	1/10W	
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R160	1-216-295-91	CONDUCTOR, CHIP		(2012)		
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W	
		< SWITCH >				
S101	1-572-085-11	SWITCH, LEAF (LIMIT)				
**********						
*	A-4673-782-A	DISPLAY BOARD, COMPLETE (CE305/CE405)				
*	A-4673-954-A	DISPLAY BOARD, COMPLETE (C250Z/C350Z)				
		**********				
		< CAPACITOR >				
C801	1-161-494-00	CERAMIC	0.022uF		25V	
		< CONNECTOR >				
CN801	1-764-411-11	PIN, CONNECTOR (PC BOARD) 35P				
		< FLUORESCENT INDICATOR >				
FL801	1-517-164-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC801	8-759-339-53	IC GP1U28XB				
		< RESISTOR >				
R801	1-249-415-11	CARBON	680	5%	1/4W	F
R802	1-249-417-11	CARBON	1K	5%	1/4W	F
R803	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R804	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R805	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R806	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R807	1-249-431-11	CARBON	15K	5%	1/4W	
R808	1-247-871-11	CARBON	47K	5%	1/4W	
R809	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R810	1-249-431-11	CARBON	15K	5%	1/4W	(CE305/CE405)
		< SWITCH >				
S801	1-554-303-21	SWITCH, TACTILE (DISC SKIP)				
S802	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)				
S803	1-554-303-21	SWITCH, TACTILE (■)				
S804	1-554-303-21	SWITCH, TACTILE (❚❚)				
S805	1-554-303-21	SWITCH, TACTILE (▷)				
S806	1-554-303-21	SWITCH, TACTILE (▷▷❙, AMS)				
S807	1-554-303-21	SWITCH, TACTILE (❙◁◁, AMS)				
S808	1-554-303-21	SWITCH, TACTILE (◀◀)				
S809	1-554-303-21	SWITCH, TACTILE (▶▶)				
S810	1-554-303-21	SWITCH, TACTILE (EX-CHANGE)				
S811	1-554-303-21	SWITCH, TACTILE (DISC CHECK) (CE305/CE405)				

LOADING | MAIN

REF.No.	Part No.	Description			Remark
**********					
*	1-659-738-11	LOADING BOARD			
		**********			
		< MOTOR >			
M802	A-4660-914-A	MOTOR ASSY, LOADING (LOADING)			
**********					
*	A-4673-784-A	MAIN BOARD, COMPLETE (US,CND,CH)			
		**********			
*	A-4673-785-A	MAIN BOARD, COMPLETE			
		**********			
		(EXCEPT US,CND,E,CH)			
*	A-4673-786-A	MAIN BOARD, COMPLETE (E)			
		**********			
*	4-922-525-01	HEAT SINK			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C301	1-162-199-31	CERAMIC	10PF	5%	50V
C302	1-162-199-31	CERAMIC	10PF	5%	50V
C303	1-164-159-11	CERAMIC	0.1uF		50V
C305	1-124-443-00	ELECT	100uF	20%	10V
C306	1-124-442-00	ELECT	330uF	20%	6.3V
C315	1-161-494-00	CERAMIC	0.022uF		25V
C316	1-164-159-11	CERAMIC	0.1uF		50V
C317	1-161-494-00	CERAMIC	0.022uF		25V
C320	1-162-290-31	CERAMIC	470PF	10%	50V
C401	1-162-282-31	CERAMIC	100PF	10%	50V
C402	1-162-215-31	CERAMIC	47PF	5%	50V
C403	1-162-215-31	CERAMIC	47PF	5%	50V
C404	1-130-479-00	MYLAR	0.0047uF	5%	50V
C405	1-130-472-00	MYLAR	0.0012uF	5%	50V
C406	1-124-443-00	ELECT	100uF	20%	10V
C407	1-161-494-00	CERAMIC	0.022uF		25V
C408	1-104-664-11	ELECT	47uF	20%	16V
C410	1-162-290-31	CERAMIC	470PF	10%	50V
C412	1-164-159-11	CERAMIC	0.1uF		50V
C501	1-162-282-31	CERAMIC	100PF	10%	50V
C502	1-162-215-31	CERAMIC	47PF	5%	50V
C503	1-162-215-31	CERAMIC	47PF	5%	50V
C504	1-130-479-00	MYLAR	0.0047uF	5%	50V
C505	1-130-472-00	MYLAR	0.0012uF	5%	50V
C506	1-124-443-00	ELECT	100uF	20%	10V (US,CND,E,CH)
C506	1-124-994-11	ELECT	100uF	20%	10V (AEP,UK,G,IT,EE,AUS)
C507	1-161-494-00	CERAMIC	0.022uF		25V
C508	1-104-664-11	ELECT	47uF	20%	16V
C509	1-126-962-11	ELECT	3.3uF	20%	50V
C510	1-162-290-31	CERAMIC	470PF	10%	50V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C602	1-126-944-11	ELECT	3300uF	20%	16V
C603	1-126-942-61	ELECT	1000uF	20%	16V
C604	1-126-963-11	ELECT	4.7uF	20%	50V
C605	1-126-963-11	ELECT	4.7uF	20%	50V
C605	1-126-163-11	ELECT	4.7uF	20%	50V
C606	1-126-963-11	ELECT	4.7uF	20%	50V
C607	1-126-941-11	ELECT	470uF	20%	6.3V
C608	1-104-666-11	ELECT	220uF	20%	10V
C609	1-124-918-11	ELECT	47uF	20%	63V
C610	1-124-907-11	ELECT	10uF	20%	50V
C614	1-104-665-11	ELECT	100uF	20%	16V
C616	1-161-494-00	CERAMIC	0.022uF		25V
C619	1-104-664-11	ELECT	47uF	20%	16V
C620	1-161-494-00	CERAMIC	0.022uF		25V
C622	1-162-306-11	CERAMIC	0.01uF	20%	16V
C624	1-161-494-00	CERAMIC	0.022uF		25V
C625	1-161-494-00	CERAMIC	0.022uF		25V
C626	1-161-494-00	CERAMIC	0.022uF		25V
C628	1-104-664-11	ELECT	47uF	20%	16V
C648	1-161-494-00	CERAMIC	0.022uF		25V
C649	1-161-494-00	CERAMIC	0.022uF		25V
C651	1-104-664-11	ELECT	47uF	20%	16V
C652	1-104-664-11	ELECT	47uF	20%	16V
C653	1-136-165-00	FILM	0.1uF	5%	50V
C654	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
CN401	1-750-640-11	CONNECTOR, FFC/FPC 23P			
CN402	1-764-411-11	PIN, CONNECTOR (PC BOARD) 35P			
* CN403	1-568-852-11	SOCKET, CONNECTOR 9P			
* CN404	1-568-825-11	SOCKET, CONNECTOR 6P			
* CN601	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D302	8-719-987-63	DIODE 1N4148M			
D601	8-719-200-82	DIODE 11ES2			
D602	8-719-200-82	DIODE 11ES2			
D603	8-719-200-82	DIODE 11ES2			
D604	8-719-200-82	DIODE 11ES2			
D605	8-719-200-82	DIODE 11ES2			
D606	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D608	8-719-987-63	DIODE 1N4148M			
D609	8-719-010-34	DIODE UZ-4.7BSC			
		< IC >			
IC301	8-759-362-47	IC CXD8567AM			
IC303	8-752-867-57	IC CXP82320-064Q			
IC304	8-759-821-32	IC CXA1291P			
IC401	8-759-145-58	IC uPC4558C			
IC501	8-759-145-58	IC uPC4558C			
IC601	8-759-061-65	IC LA5602			
IC602	8-749-011-78	IC BA17807T			
IC603	8-759-633-42	IC M5293L			

REF.No.	Part No.	Description				Remark
		< JACK >				
J301	1-770-719-11	JACK, PIN 2P (LINE OUT)				
		< COIL >				
L301	1-410-503-11	INDUCTOR 3.3uH				
L302	1-410-503-11	INDUCTOR 3.3uH				
L303	1-410-503-11	INDUCTOR 3.3uH				
L304	1-410-503-11	INDUCTOR 3.3uH				
L305	1-410-397-21	FERRITE BEAD INDUCTOR				
L306	1-410-397-21	FERRITE BEAD INDUCTOR				
L401	1-410-503-11	INDUCTOR 3.3uH				
L501	1-410-503-11	INDUCTOR 3.3uH				
L601	1-412-473-21	INDUCTOR 0uH				
L603	1-412-473-21	INDUCTOR 0uH				
L604	1-412-473-21	INDUCTOR 0uH				
L605	1-410-503-11	INDUCTOR 3.3uH				
L606	1-410-397-21	FERRITE BEAD INDUCTOR				
L607	1-410-503-11	INDUCTOR 3.3uH				
L608	1-410-503-11	INDUCTOR 3.3uH				
L609	1-412-473-21	INDUCTOR 0uH				
		< TRANSISTOR >				
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q402	8-729-141-26	TRANSISTOR 2SC3622A-LK				
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q502	8-729-141-26	TRANSISTOR 2SC3622A-LK				
Q503	8-729-900-65	TRANSISTOR DTA144ES				
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		< RESISTOR >				
R205	1-249-430-11	CARBON	12K	5%	1/4W	
R206	1-249-429-11	CARBON	10K	5%	1/4W	
R251	1-249-440-11	CARBON	82K	5%	1/4W	
R252	1-249-440-11	CARBON	82K	5%	1/4W	
R253	1-249-441-11	CARBON	100K	5%	1/4W	
R254	1-249-441-11	CARBON	100K	5%	1/4W	
R255	1-249-393-11	CARBON	10	5%	1/4W	F
R256	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R257	1-247-889-00	CARBON	270K	5%	1/4W	
R258	1-247-889-00	CARBON	270K	5%	1/4W	
R259	1-247-860-11	CARBON	16K	5%	1/4W	
R260	1-247-883-00	CARBON	150K	5%	1/4W	
R261	1-249-431-11	CARBON	15K	5%	1/4W	
R262	1-249-382-11	CARBON	1.2	5%	1/6W	F
R263	1-249-382-11	CARBON	1.2	5%	1/6W	F
R264	1-249-393-11	CARBON	10	5%	1/4W	F
R301	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R302	1-247-807-31	CARBON	100K	5%	1/4W	
R303	1-249-411-11	CARBON	330	5%	1/4W	F
⚠R305	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F
⚠R306	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F
R308	1-249-429-11	CARBON	10K	5%	1/4W	
R309	1-249-417-11	CARBON	1K	5%	1/4W	F
R310	1-249-417-11	CARBON	1K	5%	1/4W	F
R311	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R312	1-249-437-11	CARBON	47K	5%	1/4W	
R313	1-249-417-11	CARBON	1K	5%	1/4W	
R314	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R315	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R316	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R317	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R318	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R319	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R320	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R321	1-249-429-11	CARBON	10K	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-441-11	CARBON	100K	5%	1/4W	
R324	1-249-429-11	CARBON	10K	5%	1/4W	
R330	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R403	1-249-436-11	CARBON	39K	5%	1/4W	
R404	1-249-436-11	CARBON	39K	5%	1/4W	
R405	1-249-431-11	CARBON	15K	5%	1/4W	
R406	1-249-431-11	CARBON	15K	5%	1/4W	
R407	1-249-437-11	CARBON	47K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
R409	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R410	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R411	1-247-887-00	CARBON	220K	5%	1/4W	
R412	1-249-417-11	CARBON	1K	5%	1/4W	F
R416	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R503	1-249-436-11	CARBON	39K	5%	1/4W	
R504	1-249-436-11	CARBON	39K	5%	1/4W	
R505	1-249-431-11	CARBON	15K	5%	1/4W	
R506	1-249-431-11	CARBON	15K	5%	1/4W	
R507	1-249-437-11	CARBON	47K	5%	1/4W	
R508	1-249-437-11	CARBON	47K	5%	1/4W	
R509	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R510	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R511	1-247-887-00	CARBON	220K	5%	1/4W	
R512	1-249-417-11	CARBON	1K	5%	1/4W	F
R516	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R517	1-249-441-11	CARBON	100K	5%	1/4W	
R601	1-249-435-11	CARBON	33K	5%	1/4W	
R602	1-249-429-11	CARBON	10K	5%	1/4W	
R603	1-249-438-11	CARBON	56K	5%	1/4W	
R604	1-249-429-11	CARBON	10K	5%	1/4W	
R607	1-249-411-11	CARBON	330	5%	1/4W	
		< SWITCH >				
⚠S601	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SLECTOR) (E)				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

MAIN **SENSOR** **TABLE MOTOR**

REF.No.	Part No.	Description	Remark
		< VIBRATOR >	
X301	1-579-833-21	VIBRATOR, CRYSTAL (33MHz)	
X401	1-579-175-11	VIBRATOR, CERAMIC (10MHz)	
**********			
*	1-659-737-11	SENSOR BOARD **********	
		< CONNECTOR >	
CN851	1-573-383-11	PIN, CONNECTOR (PC BOARD) 2P	
CN852	1-750-243-11	SOCKET, CONNECTOR 6P	
		< DIODE >	
D851	8-749-924-18	DIODE PHOTO INTERRUPTER RPI-1391	
D852	8-749-924-30	DIODE PHOTO REFLECTOR GP2S28	
		< RESISTOR >	
R851	1-249-416-11	CARBON 820 5% 1/4W	F
R852	1-249-406-11	CARBON 120 5% 1/4W	F
**********			
*	1-647-364-11	TABLE MOTOR BOARD **********	
		< MOTOR >	
M801	A-4660-525-A	MOTOR ASSY, ROTARY (TABLE)	
**********			
		MISCELLANEOUS **********	
7	1-776-125-11	WIRE (FLAT TYPE) (35 CORE)	
9	1-776-124-11	WIRE (FLAT TYPE) (9 CORE)	
⚠59	1-558-943-61	CORD POWER (E)	
⚠59	1-575-651-21	CORD POWER (AEP,CH,G,EE)	
⚠59	1-590-926-11	CORD POWER (US,CND)	
⚠59	1-696-845-11	CORD POWER (AUS)	
⚠59	1-751-529-11	CORD POWER (UK)	
⚠68	1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
⚠68	1-569-008-11	ADAPTOR, CONVERSION 2P (CH)	
72	1-751-052-11	WIRE (FLAT TYPE) (6 CORE)	
105	1-466-996-11	ENCODER, ROTARY	
109	1-765-443-11	WIRE (FLAT TYPE (23 CORE)	
⚠751	8-848-367-11	OPTICAL PICK-UP KSS-213B-K/N	
⚠752	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M801	A-4660-525-A	MOTOR ASSY, ROTARY (TABLE)	
M802	A-4660-914-A	MOTOR ASSY, LOADING (LOADING)	
⚠S601	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
⚠T601	1-423-830-11	TRANSFORMER, POWER (US,CND)	
⚠T601	1-429-394-11	TRANSFORMER, POWER (EXCEPT US,CND,E)	
⚠T601	1-429-395-11	TRANSFORMER, POWER (E)	
**********			
		ACCESSORIES & PACKING MATERIALS **********	
	1-473-519-11	REMOTE COMMANDER (RM-DC41) (C350Z/CE405)	
	4-941-762-11	COVER (MLY), BATTERY (For RM-DC41)	
	1-558-271-11	CORD, CONNECTION (AUDIO 108cm)	
	3-810-585-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,SWEDISH, CHINESE) (CND,AEP,E,CH,UK)	
	3-810-585-21	MANUAL, INSTRUCTION (ENGLISH) (US,AUS)	
	3-810-585-31	MANUAL, INSTRUCTION (GERMAN,DUTCH,PORTUGUESE,ITALIAN) (AEP,G)	
	3-810-585-41	MANUAL, INSTRUCTION (SWEDISH,FINISH,DANNISH) (CE405:AEP)	
	3-810-585-51	MANUAL, INSTRUCTION (ENGLISH,RUSSIAN,POLISH) (EE)	
*	4-979-552-01	CUSHION (F)	
*	4-979-553-01	CUSHION (R)	
*	4-979-554-01	INDIVIDUAL CARTON (CE405/CE305:AEP)	
*	4-979-759-01	INDIVIDUAL CARTON (CE305)	
*	4-981-602-01	INDIVIDUAL CARTON (C350Z)	
*	4-981-603-01	INDIVIDUAL CARTON (C250Z)	
**********			
		********** HARDWARE LIST **********	
#1	7-685-647-79	SCREW +BVTP 3x10 TYPE2 N-S	
#2	7-682-548-04	SCREW +BVTT 3x8 (S)	
#3	7-685-648-79	SCREW (M3 x 12) TAPPING	
#4	7-685-646-79	SCREW +BVTP 3x8 TYPE2 N-S	
#5	7-621-772-00	SCREW +B 2x3	
#6	7-685-134-19	SCREW +PTPWH 2.6x8 (TYPE2)	
#7	7-621-255-15	SCREW +P 2x3	
#8	7-685-871-01	SCREW +BVTT 3x6 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

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CDP-C250Z/C350Z/CE305/CE405

SONY

SERVICE MANUAL

US Model
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UK Model
CDP-CE405
E Model
Australian Model
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SUPPLEMENT-1

File this supplement with the service manual.

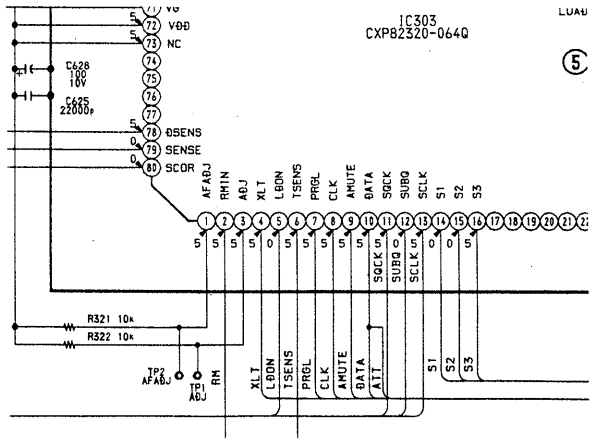
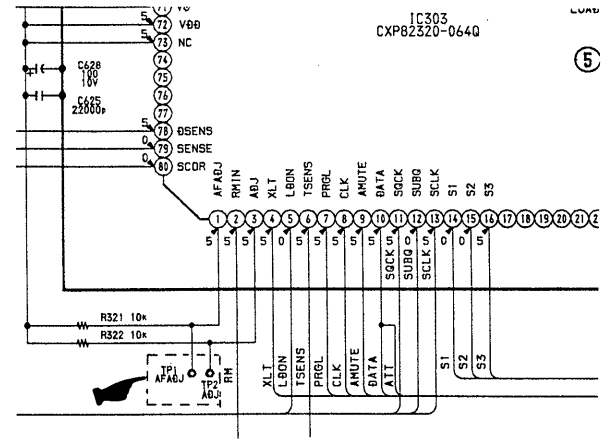
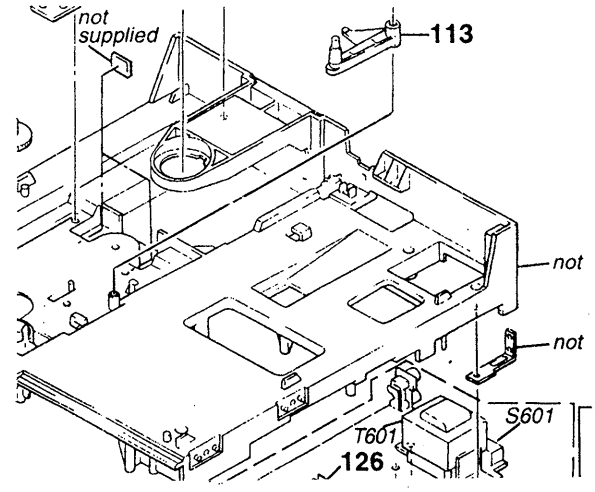
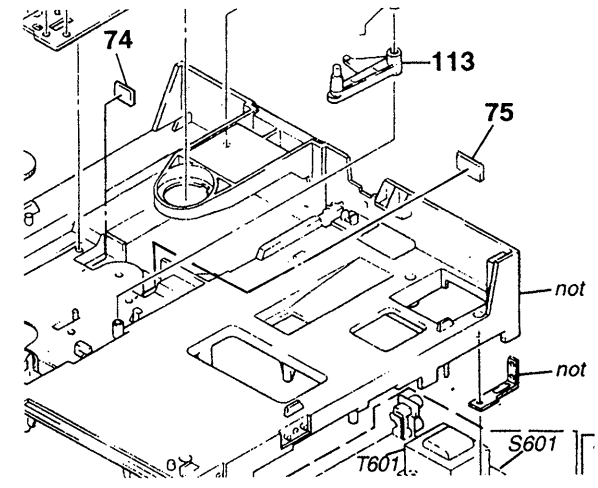
Subject : 1. CORRECTION
2. MODEL ADDITION (CDP-C250Z/C350Z : Canadian model)
3. PARTS CHANGED
4. TEST MODE ADDITION

(ECN-CD501868)

1. CORRECTION

- **Correct your Service manual as shown below.**

☛ **: indicates corrected portion.**

<table>
<tr><th>Page</th><th>INCORRECT</th><th>CORRECT</th></tr>
<tr><td>21</td><td>[MAIN BOARD]
 
</td><td>[MAIN BOARD]
 
</td></tr>
<tr><td>30</td><td>Ref. No. | Part No. | Description | Remark
*** EXPLODED VIEWS ***
Not supplied
Not supplied
 
</td><td>Ref. No. | Part No. | Description | Remark
*** EXPLODED VIEWS ***
74 4-981-731-01 CUSHION (U/D)
75 4-981-731-11 CUSHION (U/D)
 
</td></tr>
<tr><td>36</td><td>Ref. No. | Part No. | Description | Remark
*** ACCESSORIES & PACKING MATERIALS ***
* 4-979-554-01 INDIVIDUAL CARTON (CE405/CE305 : AEP)
* 4-979-759-01 INDIVIDUAL CARTON (CE305)</td><td>Ref. No. | Part No. | Description | Remark
*** ACCESSORIES & PACKING MATERIALS ***
* 4-979-554-01 INDIVIDUAL CARTON (CE405 : EXCEPT E, CH) ☛
* 4-979-759-01 INDIVIDUAL CARTON (CE305 : EXCEPT E, CH) ☛
* 4-981-352-01 INDIVIDUAL CARTON (CE405 : E, CH)
* 4-981-354-01 INDIVIDUAL CARTON (CE305 : E, CH)</td></tr>
</table>

2. MODEL ADDITION (CDP-C250Z/C350Z : Canadian model)

• For detailed Canadian model, refer to US model.

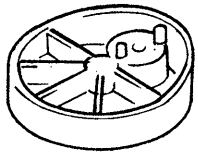
Difference table

Page	C250Z/C350Z : US model				C250Z/C350Z : Canadian model			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
29	* 71	4-978-490-71	PANEL, BACK (C250Z : US)		* 71	4-978-767-81	PANEL, BACK (C250Z : Canadian)	
	* 71	4-978-490-81	PANEL, BACK (C350Z : US)		* 71	4-978-767-91	PANEL, BACK (C350Z : Canadian)	

3. PARTS CHANGED

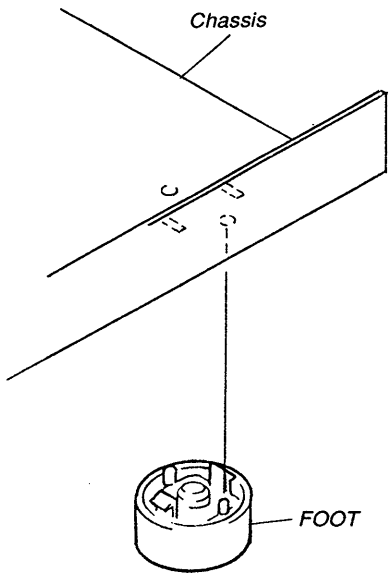
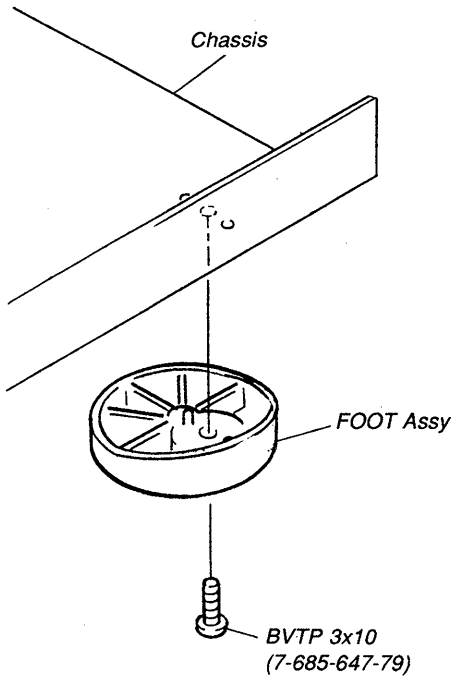
• The following parts have been changed as below.

Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
28	14	4-933-601-01	FOOT		14	X-4946-618-1	FOOT ASSY	



• The former parts and the new parts have its own way to install.

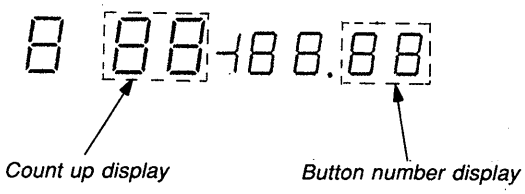
How to install

FORMER	NEW
	

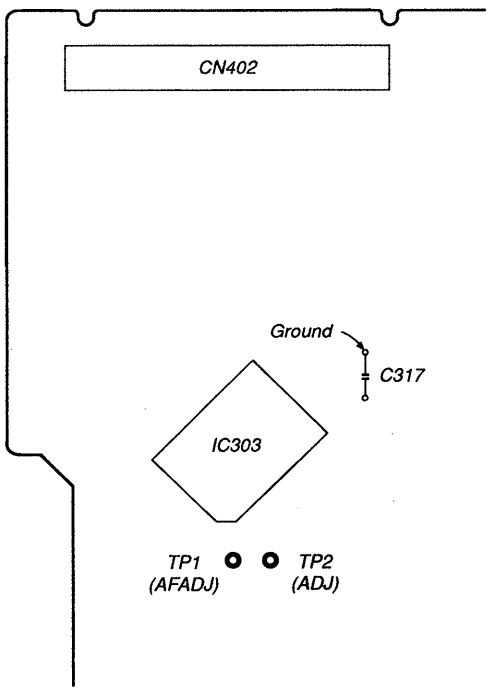
4. TEST MODE ADDITION

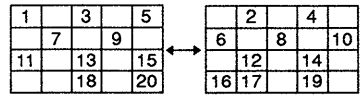
Fluorescent Indicator Tube Full Lighting and Key Check Mode

1. Connect the test point TP1 (AFADJ) of the main board to ground.
2. Turn on the power switch.
3. The fluorescent indicator tubes will light up fully.
4. Set the key check mode by pressing any button.
   In the key check mode, each time a button is pressed, the count up display will count up. However, the display will not count up for buttons that have already been pressed once.
   The number of the button pressed will be displayed in the indicator, only while the button is being pressed.
5. To exit the test mode, disconnect the power plug from the outlet.



[MAIN BOARD] (Conductor Side)



Button	Button number display
1	15
2	41
3	40
4	39
5	38
6	37
7	36
8	09
9	10
10	11
>10	12
EDIT/TIME FADE	13
PEAK SEARCH	14
DISC CHECK	43
EX-CHANGE	42
DISC SKIP	45
OPEN/CLOSE ⏏	46
▶▶	53
◀◀	52
AMS ▷▷|	50
AMS |◁◁	51
REPEAT	23
CLEAR	22
CHECK	21
PROGRAM	20
SHUFFLE	19
CONTINUE	18
DISC 1	28
DISC 2	29
DISC 3	26
DISC 4	25
DISC 5	24
MUSIC SCAN	16
FADER	17
TIME	27
■	Fluorescent indicator fully lit.
▯▯	The following displays switch alternately. 
▷	The part of the display on the fluorescent indicator tube blinks repeatedly.

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UK Model
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CDP-CE305/CE405

CORRECTION-1

Correct your service manual as shown below.

____ (Under line) : indicates corrected portion.

Page	INCORRECT			CORRECT		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
34	IC303	8-752-867-57	IC CXP82320-064Q	IC303	8-752-864-57	IC CXP82320-064Q

(RPC-96021)

9-960-498-91

Sony Corporation
Home A&V Products Company

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CDP-C250Z/C350Z/CE305/CE405

SONY

SERVICE MANUAL

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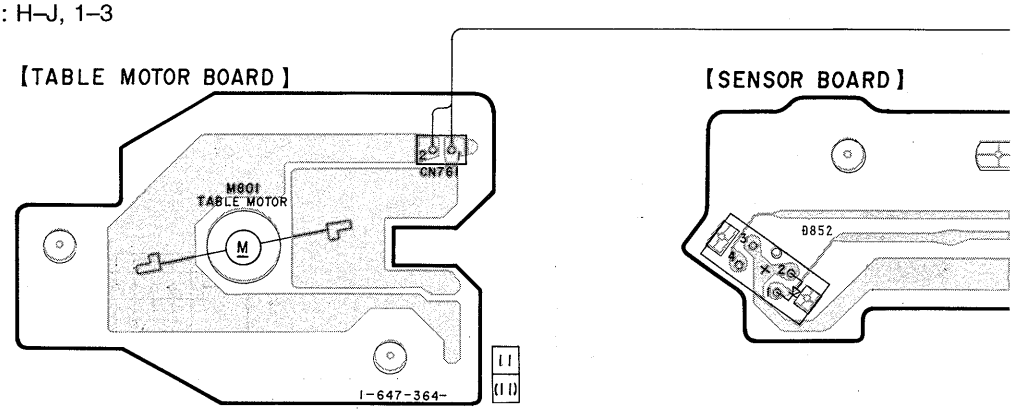
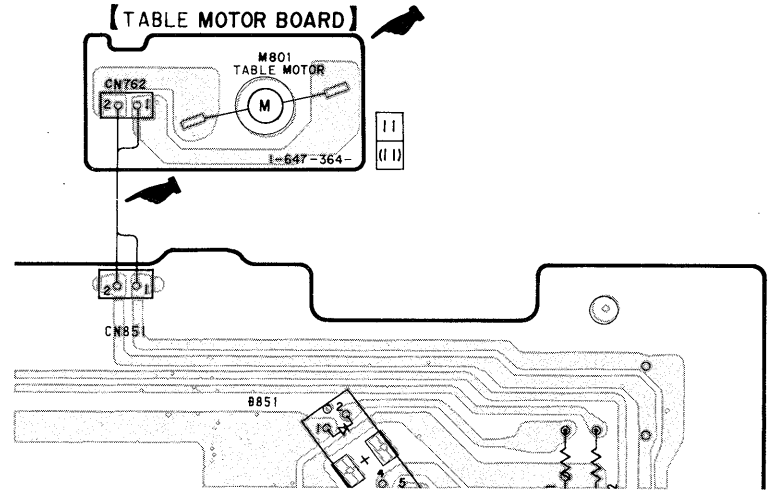
UK Model
CDP-CE405
E Model
Australian Model
Chinese Model
CDP-CE305/CE405

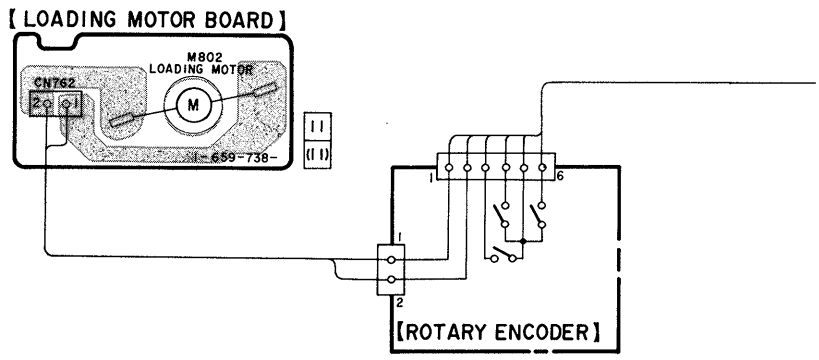
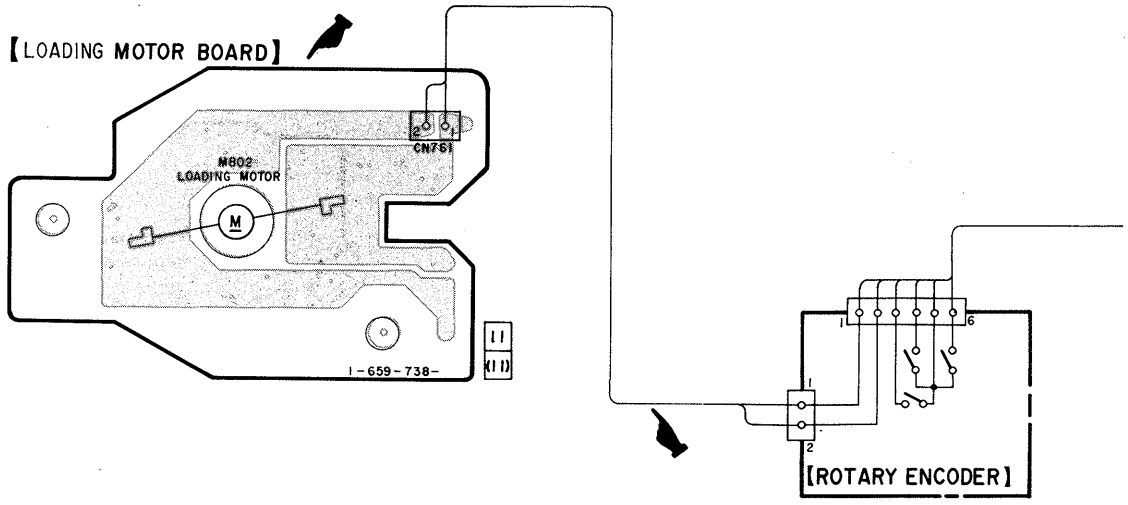
CORRECTION-2

Correct your service manual as shown below.

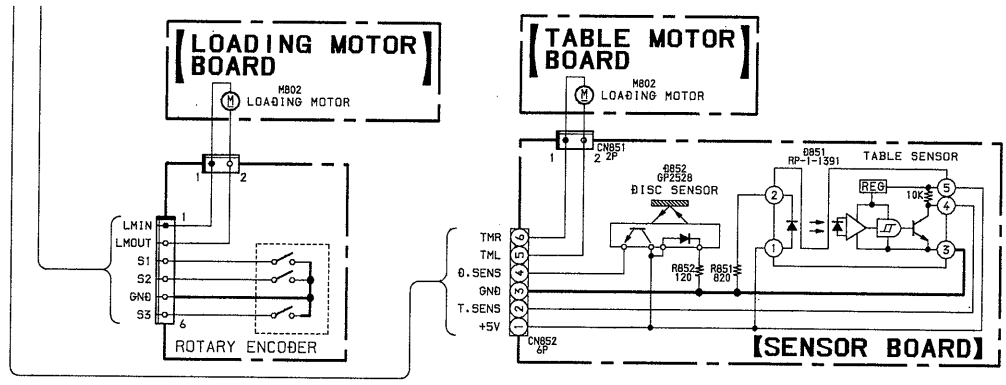
☛ : indicates corrected portion.

Page	INCORRECT
17	Location : H–J, 1–3 
	CORRECT
	Location : H–J, 6–8 

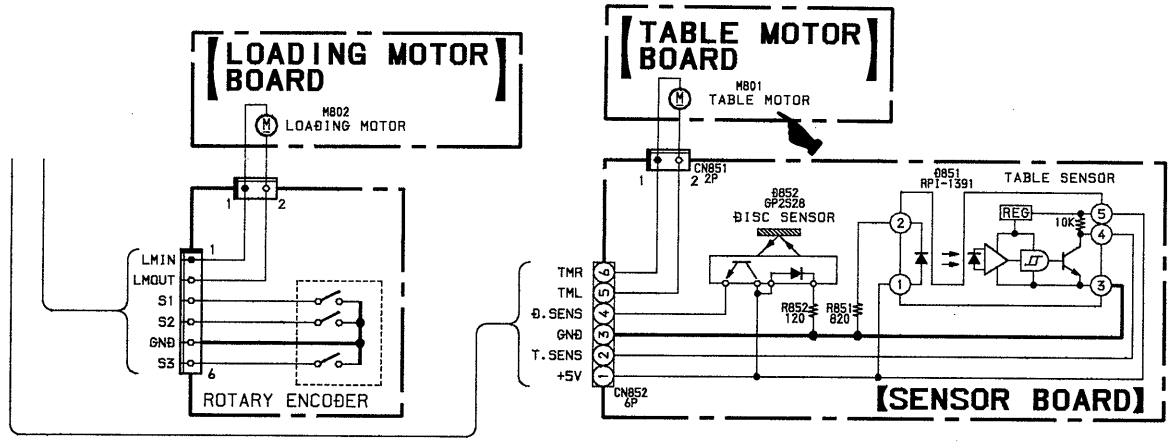
☛ : indicates corrected portion.

Page	INCORRECT
18	Location : H–J, 12–16 
	CORRECT
	Location : H–J, 12–16 

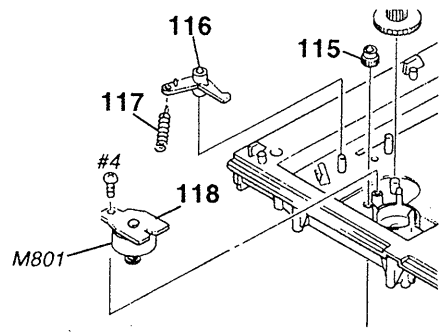
Page	INCORRECT
23	Location : I–K, 21–26

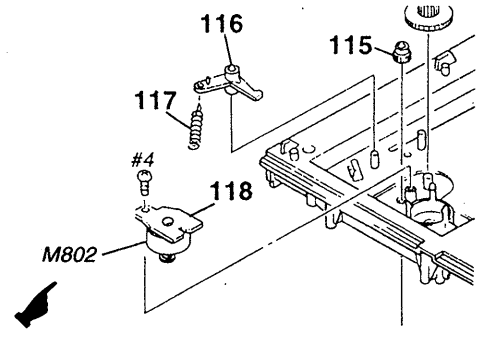


CORRECT
Location : I–K, 21–26



Page	INCORRECT				CORRECT			
30	Ref. No.	Parts. No.	Description	Remark	Ref. No.	Parts. No.	Description	Remark





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